

Projector Service Manual

Model: S5201/S5201B/S5301WB series

Version: Rev1
First Edition (Dec. 2010)

<p>RESTRICTIONS ON USE OF MATERIALS:</p>

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Revision List

Version	Release Date	Revision History	Vendor Model Name
Rev0	2010.12.21	First Release	
Rev1	2011.01.11	Add S5201B/S5301WB (1) Ch1-Add SPEC (2) Ch2-Update Firmware Upgrade SOP (3) Ch3-Disassembly process, Module Assembly Key Point (4) Ch4-Add "DMD Image Quality " section, Change RS232 baud rate default to 9600. (5) Ch5-FRU List (6) App.-DDC data	

Chapter 1 System Specification

Product Specification

- 1.0 Optical Performance
- 2.0 Image Quality
- 3.0 Mechanical Specification
- 4.0 Packaging
- 5.0 Thermal Specification
- 6.0 Environmental
- 7.0 Regulatory
- 8.0 Reliability
- 9.0 Power Requirements
- 10.0 Panel Specification
- 11.0 Compatibility
- 12.0 Image Interface
- 13.0 Control Interface
- 14.0 User Interface

1.0 Optical Performance	Tested under 60" (diagonal) image size with Wide projection lens position unless other specified.	
1.1 ANSI Brightness	Minimum 2400 Lumens	
1.2 Brightness Uniformity		
1.2.1 ANSI Uniformity	Minimum 45%	
1.2.2 JBMA Uniformity	Minimum 65%	
1.2.3 Upper-Down unbalance	0.5~2	
1.2.4 Left-Right unbalance	0.6~1.67	
1.3 Contrast Ratio		
1.3.1 ANSI Contrast	Minimum 150:1	
1.3.2 FOFO Contrast without APM	Minimum 1800:1	
1.3.3 FOFO Contrast with APM	Minimum 3200:1	
1.4 Light Leakage		
1.4.1 Light Leakage in Active Area	S5201/S5201B : <0.5 lux compared to center point within 60" (Diagonal at 0.74m) image size. S5301WB : <0.5 lux compared to center point within 70" (Diagonal at 0.74m) image size. Note: This light leakage in Active area is only described as the spot light with obvious shape. It is not included the uniformity difference of the projector for black pattern.	
1.4.2 Light Leakage out of Active Area (Except DMD Defect)	<0.5 lux with 60"~80"(Diagonal at 0.74m) image size	
1.5 Color	Reference meter: Vendor Lab CS1000 Spectroradio Meter (S/N: 00370975) (Spec will be confirmed at PVT stage)	
	x	y
1.5.1 White	0.311±0.04	0.356±0.04
1.5.2 Red	0.631±0.04	0.357±0.04
1.5.3 Green	0.339±0.04	0.570±0.04
1.5.4 Blue	0.147±0.03	0.075±0.03
1.6 Color Uniformity	x	y
1.6.1 White	0.040	0.040
1.6.2 Red	0.040	0.040
1.6.3 Green	0.040	0.040
1.6.4 Blue	0.040	0.040
1.7 Color Gamut	Typ 60% compare NTSC	
2.0 Image Quality		
2.1 Throw Ratio	S5201/S5201B : 81"±3% Diagonal at 1m S5301WB : 95"±3% Diagonal at 1m	
2.2 Zoom Ratio (tolerance applied)	1(Fixed)	
2.3 Distortion		
2.3.1 Keystone Distortion	<1.0%	
2.3.2 Vertical TV Distortion	<1.0%	

2.3.3 Screen distortion	S5201/S5201B : A <= 4.5 mm, B <= 4.0 mm, C <= 3.5 mm with 81" image size S5301WB : A <= 6.0 mm, B <= 5.5 mm, C <= 4.0 mm with 95" image size		
2.4 Projection Offset	S5201/S5201B : 130% ±5% S5301WB : 110% ±5%		
2.5 Focus Range			
2.5.1 Visible Range	0.5~2m		
2.5.2 Clearly Focus Range	0.75~1.6 m(Spec. defined as item 2.6)		
2.6 Focus			
2.6.1 ☒ Pattern	(1) If pattern can be uniformly focused (not worse than Limit Sample), then pass! (2) If it's difficult to judge, then check 2.6.2		
2.6.2 Defocus and Flare	Defocus: R<=3.0; G<=3.0; B<=3.0 pixel Flare: R<=3.5; G<=3.5; B<=3.5 pixel Slight flare is not counted as flare.		
2.6.3 Focus unbalance	Adjust focus from near to far until one corner clear, difference less than 50 cm		
2.7 Lateral Color		Center of 49"diagonal area	All other area
	R-G	<2/3	<1
	G-B	<2/3	<1
	R-B	<1	<1
2.8 Image Quality			
2.8.1 DMD Image Quality			
2.8.2 Image Imperfection			
2.9 Lamp Type	Philips 230W – 170W 0.9 E20.9 LL FusionStar		
3.0 Mechanical Specification			
3.1 Dimensions	290 x98.5x 254 mm (W x H x D)		
3.2 Weight	<3500g		
3.3 Security Slot	Kensington compatible slot 36kgf break away force		
3.5 Lens Cover	Detached lens cover		
3.6 Feet	Fast adjustable foot in front, Adjustable foot in rear. Front/ Rear foot Tilt:0-6° ,Right/Left: ±2.2°		
4.0 Packaging	Detail refer to Packing Description		
4.1 Outside Dimensions	375 x 216 x 370 mm (W x H x D)		
4.2 Weight	<5.5 kg (Including Accessories, Projector)		
4.3 Transportation	30 EA by Air; 1500 EA @ 40' container, or750 EA @ 20' container by Sea		
5.0 Thermal Specification	Mechanical component temperature at ambience 0~35°C		
5.1 Surface held or touched for short periods	Metal < 65°C; Plastic<85°C		
5.2 Surface which may be touched	Metal	Plastic	
	<65°C	<85°C	
5.3 Exhaust Air	<95°C		
6.0 Environmental			
6.1 Temperature	Operating	0~35°C, without condensation	
	Storage	-30~65°C, without condensation	

6.2 Humidity	Operating	10~90%RH, without condensation
	Storage	10~90%RH, without condensation
6.3 Audible Noise Level	Typical	Normal mode: 36dBA @ 23±2℃, CW x2 speed Eco mode: 31dBA @ 23±2℃, CW x2 speed Normal mode: 38dBA @ 23±2℃, CW x3 speed Eco mode: 33dBA @ 23±2℃, CW x3 speed
	Maximum	Normal mode: 38dBA @ 23±2℃, CW x2 speed Eco mode: 33dBA @ 23±2℃, CW x2 speed Normal mode: 40dBA @ 23±2℃, CW x3 speed Eco mode: 35dBA @ 23±2℃, CW x3 speed
6.4 Altitude	Operating: 1. 12,000 feet @ 25℃ (3.5 hours) 2. Altitude Ramp rate: ≤ 3500 feet per minute (1 hour) Non-operating: 40,000 feet @ -30℃ (1 hour)	
7.0 Regulatory	Safety	CB, cTUVus, GS, CCC
	EMC	CE, FCC, VCCI
	ESD	See Appendix B2.3
8.0 Reliability		
8.1 MTBF	25000 hours except Lamp	
8.2 Lamp Lifetime	Normal : S5201 : 3500 hours, S5201B/S5301WB : 3000 hours Eco: 5000 hours (50% of Projector will have 50% initial minimum brightness)	
9.0 Power Requirements	See Appendix F	
9.1 Power Supply (Normal)	VAC 90 – 264 (47 ~ 63Hz),	
9.2 Power consumption	Typical	352W Max.
	Standby	1W Max. at 100 ~ 240VAC, monitor out function off, LAN function off, 12V outlet off
9.3 Power Connector	IEC-60320C14	
10.0 Panel Specification		
10.1 Type	S5201/S5201B : 0.55" XGA 2xLVDS Series 450 DMD S5301WB : 0.65" WXGA 2xLVDS Series 450 DMD	
10.2 Pixels	S5201/S5201B : H: 1024 X V: 768 S5301WB : H: 1280 X V: 800	
10.3 Color Depth	30 Bits (1.07 Billion Colors)	
11.0 Compatibility	Adhere to Electrical Specification	
11.1 PC	S5201/S5201B : PC Compatible 640X480 → 1024X768, compressed 1600X1200; S5301WB : PC Compatible 640X480 → 1024X768, compressed 1600X1200; Composite-Sync(MAC timing only);	
11.2 Video	NTSC/ NTSC4.43/ PAL (Including PAL-M, PAL-N)/ SECAM/ PAL60/	
11.3 YpbPr	NTSC (480i)/ 480p/ PAL (576i)/ 576p, HDTV (720p/ 1080P)	

11.4 DDC	EDID1.3 Adhere to Appendix A
12.0 Image Interface	Adhere to Electrical Specification
12.1 Analog RGB Input	15 pin D-Sub (Female) x 2 G(Y): Video amplitude 0.7/1.0 V _{p-p} : Impedance 75Ω RB(CbCr): Video amplitude 0.7 V _{p-p} : Impedance 75Ω HD/VD/CS: TTL Level
12.2 Video Input	RCA jack (Yellow) Video amplitude 1.0 V _{p-p} : Impedance 75Ω
12.3 S-Video Input	4 pin Mini-Din (Female) Y: Luminance amplitude 1.0 V _{p-p} : Impedance 75Ω C: Chroma amplitude 0.268 V _{p-p} : Impedance 75Ω
12.4 YPbPr Input	15 pin D-Sub (Female) x 2 Y: Luminance amplitude 1.0 V _{p-p} : Impedance 75Ω PbPr/C _b Cr: Chroma amplitude 0.7 V _{p-p} : Impedance 75Ω
12.5 HDMI Input	1. 19 pin HDMI connector x 2 2. HDMI V1.3/HDCP/EDID V1.3 3. HDMI-Video/audio and HDMI-Graphic Signal 4. HDMI-Graphic Signal resolution is up to 1600x1200@60Hz 5. Down-mix 5.1channel to stereo channels
12.6 Analog RGB Output	15 pin D-Sub (Female) x 1 (D-sub 1 only) G(Y): Video amplitude 0.7/1.0 V _{p-p} : Impedance 75Ω RB(CbCr): Video amplitude 0.7 V _{p-p} : Impedance 75Ω HD/VD/CS: TTL Level
12.7 USB Input (Only for S5201B / S5301WB)	S5201 : N/A S5201B / S5301WB : 1. Type A x2 (Photo Viewer & Multimedia) Two port USB2.0 Host usage (PtG Function), 500mA continuous load current each port. 2. Mini Type B x 1 (Display) For USB2.0 Device usage (DoUSB Function) 3. Display Resolution : 1024 x 768 resolution / 60Hz. 32-bit color depth
12.8 Lan Input (Only for S5201B / S5301WB)	S5201 : N/A S5201B / S5301WB : 1. RJ45 LAN x 1 (Display & HD Video) 10/100Mbps Fast Ethernet connection with G/Y LED Green LED light with cable plug-in : 100M speed Green LED dark with cable plug-in : 10M speed Yellow LED : Active flashing when cable plug-in 2. Display Resolution : 1024 x 768 resolution / 60Hz. 32-bit color depth
13.0 Control Interface	
13.1 IR Receiver	IR Receiver x2 (Front, Rear) Angle: ±0° Distance 0~10m ; ±40° Distance 0~8m
13.2 Serial Connector	RS232 x 1(3pin mini din) , command table adhere to Appendix A
13.3 Lan Control	S5201 / S5201B / S5301WB : RJ45 x1 Compliant to following standards, IEEE 802.3 compliance

	IEEE 802.3u compliance ANSI X3T12 TP-PMD 1995 S5301WB : USB Type A for Wireless Dongle Compliant to following standards, IEEE 802.11b:up to 11 Mbps,2.4GHz. IEEE 802.11g:up to 54 Mbps,2.4GHz. IEEE 802.11n draft 6.0:up to 150Mbps,2.4GHz.
13.4 USB Connector	S5201 / S5201B : Mini Type B x 1 Terminal for page up/down S5301WB : Mini Type B x 1 Terminal for page up/down & USB mouse
14.0 User Interface	Adhere to Electrical Specification
14.1 Operator Keypad	9 Keys: Power ; Source ; Resync ; e ; Menu ; Left ; Right ; Up(Keystone-) ; Down(Keystone+)
14.2 Indicators	3 LEDs: Power On/Off Status; Lamp Status; Temperature Status
14.3 Electric Keystone	Manual vertical keystone and adjustable range ± 40 (3D display mode XGA timing adjustable range ± 17)
14.4 Digital Zoom (Only for S5201)	S5201 : Digital zoom 2X Note : 3D on, Digital Zoom 1.6X S5201B : N/A
15.0 Audio	
15.1 PC Audio Input	$\Phi 3.5\text{mm}$ stereo mini jack x 2 500mVrms 10 K Ω or more
15.2 Mic Audio Input	$\Phi 3.5\text{mm}$ stereo mini jack x 1 Support dynamic & audio mix function
15.3 Audio output	$\Phi 3.5\text{mm}$ mono mini jack x 1
15.4 Speaker	Speaker 4 Ω 5W X 2, Amplifier 4W X 2
15.5 Audio input	VGA1 : Audio input 1 VGA2, Composite, S-Video, Audio input 2 (for S5201B/S5301WB : LAN, USB-A source don't support audio function)
16.0 Lamp hour	Lamp hour = [Hour used in Normal Mode] + 3.5/5 * [Hour used in Eco. Mode]
17.0 Closed Caption (CC)	
17.1 CC version	CC1/CC2/CC3/CC4
18.0 Instant On	After turn off projector, there is 120 seconds called "Instant On stage". At this stage, user can turn on the projector. After this stage, projector will cooling for 20 seconds, and all keypads are not allowed to operate.
19.0 3D Projection	Support DLP 3D PC source 100/120Hz and Video source 50/60Hz (for S5201B/S5301WB : 3D on, Digital Zoom only can support to 1.6X)
20.0 DC output	DC power jack (Standby mode is off) Output 12V, 1A max
21.0 Smart Source Detection	1. HW source Detection : VGA1, VGA2, HDMI1, HDMI2

(Only for S5201)	2. SW source Detection : Please see Appendix E Item 9
22.0 Alarm sound (Only for S5201B/ S5301WB)	
22.1 Power on Beep sound	Frequency follows Acer SW spec 1.19. Only one volume
22.2 Timer	Frequency follows Acer SW spec 1.19. Three kinds of volume setting

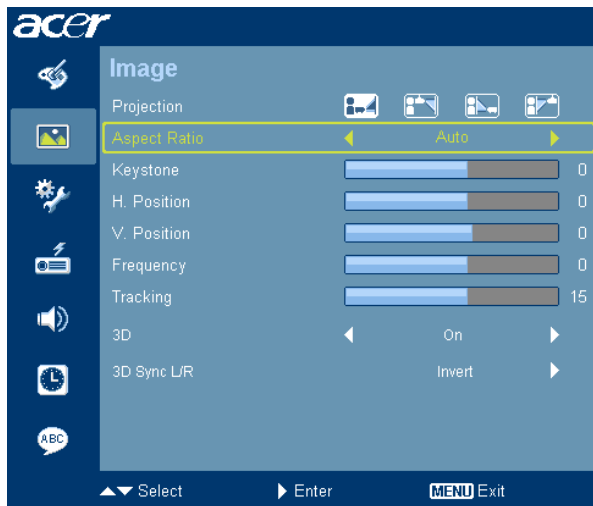
3D Projection :

- This function is only for 3D contents and must wear 3D glasses.

TI DDP DDP2430	TI DDP DDP2431
<ul style="list-style-type: none"> • Does not support FRC (Frame Rate Conversion) • Can not support HQFS 60Hz 3D source from DVD which need to go thru FRC • Can only support 120Hz 3D source from PC (VGA/DVI/HDMI) 	<ul style="list-style-type: none"> • Support FRC (Frame Rate Conversion) • Can support HQFS 60Hz 3D source from DVD which need to go thru FRC • Can support 120Hz 3D source from PC

● OSD :

- Add “3D”, “3D Sync L/R” in Image Page
- 3D : NVIDIA 3D, DLP 3D, off. Default is Off. All of acer 3D models are support both NVIDIA and DLP. (V1.17 08/21 update)
- “3D Sync L/R” is adjustable when above "3D" is on. Otherwise gray out. When you discover the inversion of the image depth (for your Left/Right eyes), do the invert action to solve this condition. (V1.17 08/21 update)
 - When choose NVIDIA 3D , 3D Sync L/R is still gray out. (V1.18 09/30 update).
 - 3D Sync L/R only enable for DLP 3D, otherwise it will be gray out (V1.18 09/30 update).
 - When 3D is enabled, Display Mode and Color temperature (in Color Page) is not adjustable.
- Function disable :
 - When 3D is enabled, eView Management and all empowering function (eTimer, eOpening, ePower) are gray out. → eKey is disable (V1.18 09/30 update)
 - When meeting 60/120Hz (no matter 3D on or off, HSG only one set value), if enduser adjust adjustable items (ex. brightness), the value will not been stored and only for that use only.
- For DDP2430 models : 3D / 3D Sync L/R (V1.17 08/21 update) , only appear for VGA/DVI/HDMI source. Disappear if other sources.
- For DDP2230/2431 models : no this limitation.



- If non-3D mode (120Hz), keep normal/same brightness.
- Not support timing in 3D mode requirement
 - 3D function can be opened when 50/60/100/120Hz.
 - Refresh rate change to not supported 3D timings under 3D mode, please show warning message of "**Input Not Supported under 3D mode**", to enforce user to change back.
- Reminder screen

Note: 3D display is now enabled.

1. Please make sure you have the correct 3D signals and glasses.
2. Please remember to turn off 3D if you don't want to see 3D images.
3. If the 3D display isn't correct, please try to enable 3D Sync Invert.
4. Display mode options will be disabled while in 3D mode.

Electrical Specification

1. Timing Table

The PC timing is as following:

(For S5201):

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)
640 x 480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
	VGA_120	119.518	61.910	52.500
800 x 600	SVGA_56	56.250	35.156	36.000
	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120	119.854	77.425	83.000
1024 x 768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.677	94.500
	XGA_120	119.804	98.958	137.750
1152 x 864	SXGA_70	70.012	63.851	94.500
	SXGA_75	75.000	67.500	108.000
1152 x 864	SXGA_85	84.990	77.094	121.500
1280 x 1024	SXGA_60	60.020	63.981	108.000
	SXGA_72	72.000	76.970	134.600
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	QuadVGA_60	60.000	60.000	108.000
	QuadVGA_75	75.000	75.000	126.000
1400 x 1050	SXGA+_60	59.978	65.317	121.750
1600 x 1200	UXGA_60	60.000	75.000	162.000
640x480@60Hz	PowerBook G4	59.940	31.469	25.170
640x480@67Hz	PowerBook G4	66.667	35.000	30.240
800x600@60Hz	PowerBook G4	60.317	37.879	40.000
1024x768@60Hz	PowerBook G4	60.004	48.363	65.000
1152x870@75Hz	PowerBook G4	75.061	68.681	100.00
1280x960@75Hz	PowerBook G4	75	75.20	126.00
1024x768@75Hz	i MAC DV (G3)	75.020	60.241	80.000
1280 X 768	WXGA_60	59.870	47.776	79.500
	WXGA_75	74.893	60.289	102.250
	WXGA_85	84.837	68.633	117.500
1280 x 720	WXGA_60	60.000	45.000	74.250
1280 x 800	WXGA_60	59.810	49.702	83.500
1440 x 900	WXGA+_60	59.887	55.935	106.500
1680 x 1050	1680x1050_60	59.954	65.290	146.250
1366 x 768	acer_16:9	59.790	47.712	85.500
1920 x1080	1920x1080_RB	60.000	66.587	138.500
1920 x1080	1920x1080_EIA	60.000	67.500	148.500
1024 x 600	acer_timing	60.000	37.500	50.400

(For S5201B/S5301WB):

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)
640 x 480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
720 x 400	VGA_70	70.087	31.469	28.3221
	VGA_85	85.039	37.927	35.500
800 x 600	SVGA_56	56.250	35.156	36.000
	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
1024 x 768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.677	94.500
1152 x 864	SXGA_70	70.012	63.851	94.500
	SXGA_75	75.000	67.500	108.000
1152 x 864	SXGA_85	84.990	77.094	121.500
1280 x 1024	SXGA_60	60.020	63.981	108.000
	SXGA_72	72.000	76.970	134.600
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	QuadVGA_60	60.000	60.000	108.000
	QuadVGA_75	75.000	75.000	126.000
1400 x 1050	SXGA+_60	59.978	65.317	121.750
1600 x 1200	UXGA_60	60.000	75.000	162.000
640x480@60Hz	Mac G4	59.940	31.469	25.170
640x480@67Hz	MAC13	66.667	35.000	30.240
800x600@60Hz	Mac G4	60.317	37.879	40.000
832x624@75Hz	MAC16	74.546	49.722	57.280
1024x768@60Hz	Mac G4	60.004	48.363	65.000
1024x768@75Hz	MAC19	75.020	60.241	80.000
1152x870@75Hz	MAC21	75.061	68.681	100.00
1280 X 768	WXGA_60	59.870	47.776	79.500
	WXGA_75	74.893	60.289	102.250
	WXGA_85	84.837	68.633	117.500
1280 x 720	WXGA_60	60.000	45.000	74.250
1280 x 800	WXGA_60	59.810	49.702	83.500
1440 x 900	WXGA+_60	59.887	55.935	106.500
1680 x 1050	1680x1050_60	59.954	65.290	146.250
1920 x1080	1920x1080_RB	60.000	66.587	138.500
1920 x1080	1920x1080_EIA	60.000	67.500	148.500
1366 x 768	acer_16:9	59.790	47.712	85.500
1024 x 600	acer_timing	60.000	37.500	50.400
640 x 480	VGA_120	119.518	61.910	52.500
800 x 600	SVGA_120	119.854	77.425	83.000
1024 x 768	XGA_120	119.804	98.958	137.750

The DVI_D & HDMI (HDCP) Established timing is as following:
(For S5201):

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)
640 x 480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
	VGA_120	119.518	61.910	52.500
800 x 600	SVGA_56	56.250	35.156	36.000
	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120	119.854	77.425	83.000
1024 x 768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_120	119.804	98.958	137.750
1152 x 864	SXGA_75	75.000	67.500	108.000
	SXGA_85	84.990	77.094	121.500
1280 x 1024	SXGA_60	60.020	63.981	108.000
	SXGA_72	72.000	76.970	134.600
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	QuadVGA_75	75.000	75.000	126.000
1400 x 1050	SXGA+_60	59.978	65.317	121.750
1600 x 1200	UXGA_60	60.000	75.000	162.000
640x480@60Hz	PowerBook G4	59.940	31.469	25.170
640x480@67Hz	PowerBook G4	66.667	35.000	30.240
800x600@60Hz	PowerBook G4	60.317	37.879	40.000
1024x768@60Hz	PowerBook G4	60.004	48.363	65.000
1152x870@75Hz	PowerBook G4	75.061	68.681	100.00
1280 x 960@75Hz	PowerBook G4	75.000	75.200	126.000
1024x768@75Hz	i MAC DV (G3)	75.020	60.241	80.000
1280 x 768	WXGA_60	59.870	47.776	79.500
	WXGA_75	74.893	60.289	102.250
	WXGA_85	84.837	68.633	117.500
1280 x 720	WXGA_60	60.000	45.000	74.250
1280 x 800	WXGA_60	59.810	49.702	83.500
1440 x 900	WXGA+_60	59.887	55.935	106.500
1680 x 1050	1680x1050_60	59.954	65.290	146.250
1366 x 768	acer_16:9	59.790	47.712	85.500
1920 x1080	1920x1080_RB	60.000	66.587	138.500
1920 x1080	1920x1080_EIA	60.000	67.500	148.500
1024 x 600	acer_timing	60.000	37.500	50.400

Video(HDMI)	480i	60	15.73	27.000
	480p	60	31.47	27
	576i	50	15.63	27.000
	576p	50	31.25	27.000
	720p_60	60	45.00	74.25
	720p_50	50	37.50	74.25
	1080i_60	60	33.75	74.25
	1080i_50	50	28.13	74.25
	1080p	60	67.5	148.5
	1080p	50	56.26	148.5
	1080p	24	27.00	74.25
	1080p	23.98	26.97	74.175

(For S5201B/S5301WB) :

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)
640 x 480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
	VGA_120	119.518	61.910	52.500
720 x 400	VGA_70	70.087	31.469	28.3221
	VGA_85	85.039	37.927	35.500
800 x 600	SVGA_56	56.250	35.156	36.000
	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120	119.854	77.425	83.000
1024 x 768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.677	94.500
	XGA_120	119.804	98.958	137.750
1152 x 864	SXGA_70	70.012	63.851	94.500
	SXGA_75	75.000	67.500	108.000
1152 x 864	SXGA_85	84.990	77.094	121.500
1280 x 1024	SXGA_60	60.020	63.981	108.000
	SXGA_72	72.000	76.970	134.600
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	QuadVGA_60	60.000	60.000	108.000
	QuadVGA_75	75.000	75.000	126.000
1400 x 1050	SXGA+_60	59.978	65.317	121.750
1600 x 1200	UXGA_60	60.000	75.000	162.000
640x480@60Hz	Mac G4	59.940	31.469	25.170
640x480@67Hz	MAC13	66.667	35.000	30.240
800x600@60Hz	Mac G4	60.317	37.879	40.000
832x624@75Hz	MAC16	74.546	49.722	57.280
1024x768@60Hz	Mac G4	60.004	48.363	65.000
1024x768@75Hz	MAC19	75.020	60.241	80.000
1152x870@75Hz	MAC21	75.061	68.681	100.00
1280 x 768	WXGA_60	59.870	47.776	79.500
	WXGA_75	74.893	60.289	102.250

	WXGA_85	84.837	68.633	117.500
1280 x 720	WXGA_60	60.000	45.000	74.250
1280 x 800	WXGA_60	59.810	49.702	83.500
1440 x 900	WXGA+_60	59.887	55.935	106.500
1680 x 1050	1680x1050_60	59.954	65.290	146.250
1920 x1080	1920x1080_RB	60.000	66.587	138.500
1920 x1080	1920x1080_EIA	60.000	67.500	148.500
1366 x 768	acer_16:9	59.790	47.712	85.500
1024 x 600	acer_timing	60.000	37.500	50.400
Vedio(HDMI)	480p	60	31.47	27
	576p	50	31.25	27.000
	720p_60	60	45.00	74.25
	720p_50	50	37.50	74.25
	1080i_60	60	33.75	74.25
	1080i_50	50	28.13	74.25
	1080p	60	67.5	148.5
	1080p	50	56.26	148.5
	1080p	24	27.00	74.25
	1080p	23.98	26.97	74.175

(For all series):

YPbPr support timing is as following:

Signal format	fh(kHz)	fv(Hz)
480i(525i)@60Hz	15.73	59.94
480p(525p)@60Hz	31.47	59.94
576i(625i)@50Hz	15.63	50.00
576p(625p)@50Hz	31.25	50.00
720p(750p)@60Hz	45.00	60.00
720p(750p)@50Hz	37.50	50.00
1080i(1125i)@60Hz	33.75	60.00
1080i(1125i)@50Hz	28.13	50.00
1080P@60HZ	67.5	60.00
1080P@50Hz	56.26	50.00
1080P@24Hz	27.00	24.00
1080P@24Hz	27.00	24.00
1080P@23.98Hz	26.97	23.98

Video, S-Video support timing is as following:

Video mode	fh(kHz)	fv(Hz)	fsc(MHz)
NTSC	15.73	60	3.58
PAL	15.63	50	4.43
SECAM	15.63	50	4.25 or 4.41
PAL-M	15.73	60	3.58
PAL-N	15.63	50	3.58
PAL-60	15.73	60	4.43
NTSC4.43	15.73	60	4.43

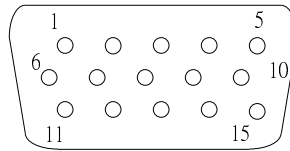
2. Characteristics of inputs/outputs

Signal	Parameter	Min	Type	Max	
RDATA	Impedance		75		Ohm
GDATA	Amplitude		0.7		Volts peak-to-peak
BDATA	Black pedestal		0		Volts
	Pixel Clock		170		M Hz
GDATA_SO	Impedance		75		Ohm
G	Amplitude		1		Volts peak-to-peak
	Video amplitude		0.7		Volts peak-to-peak
	Sync amplitude		0.3		Volts peak-to-peak
	Black pedestal		0		Volts
	Pixel Clock		170		M Hz
HDATA	Impedance		1		K ohm
	Amplitude, low level	0		0.8	volt
	Amplitude, high level	2.5		5	Volt
	Frequency	31		99	K Hz
VDATA	Impedance		1		K ohm
	Amplitude, low level	0		0.8	volt
	Amplitude, high level	2.5		5	Volt
	Frequency	48		120	Hz
SDADATA	Amplitude, low level	0		0.8	volt
	Amplitude, high level	3		5	Volt
SCLDATA	Amplitude, low level	0		0.8	volt
	Amplitude, high level	3		5	Volt
RXD	Amplitude	-25		25	Volt
TXD	Amplitude	-13.2		13.2	Volt
CVBS Luminance	Amplitude, total (video+sync)		1		Volts peak to peak
	Amplitude, video		0.7		Volts peak to peak
	Amplitude, sync		0.3		Volts peak to peak
	Impedance		75		ohm
CVBS Chroma	Amplitude		700		m Volts peak to peak
	Impedance		75		ohm
Audio	Impedance (audio in)		10		Kohm
	Amplitude (audio in)		500		mVolts rms
	Bandwidth	300Hz		16kHz	
	S/N Ratio	40			%
	Total Harmonic Distortion			10	%
Microphone	Transducer Principle				Dynamic
	Impedance	300		1K	ohm
	Frequency response	600		16k	Hz

3. Electrical Interface Character

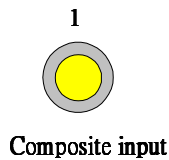
Interface Definition

- 15 pin definition of the mini D-sub male for DDC2B protocol



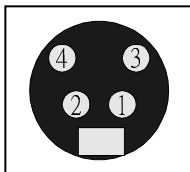
Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	Red video (Pr)	2	Green Video (Y)	3	Blue Video (Pb)	4	NC
5	NC	6	Red Video Return	7	Green Video Return	8	Blue Video Return
9	DDCP 5V	10	GND	11	GND	12	Bi-directional data (SDA)
13	Horizontal Sync	14	Vertical Sync	15	Data clock (SCL)		

- Video & Component Input



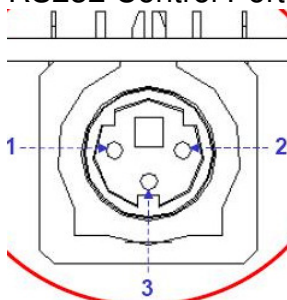
Pin	Definition
1	Composite video input

- S-Video input



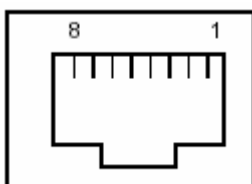
Pin	Description
1	GND
2	GND
3	Luminance
4	Chroma

- RS232 Control Port



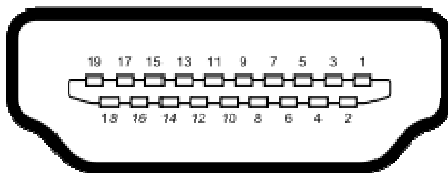
Pin	Description
1	TX
2	RX
3	GND

- LAN Control Port



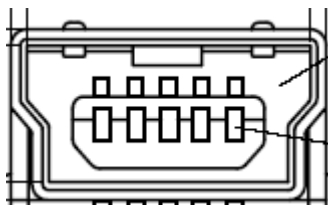
Pin	Signal	Pin	Signal
1	TD+	5	Common Mode Termination
2	TD-	6	RD-
3	RD+	7	Common Mode Termination
4	Common Mode Termination	8	Common Mode Termination

- HDMI Input



Type A pin	Signal Name
1	TMDs Data2+
2	TMDs Data2 Shield
3	TMDs Data2–
4	TMDs Data1+
5	TMDs Data1 Shield
6	TMDs Data1–
7	TMDs Data0+
8	TMDs Data0 Shield
9	TMDs Data0–
10	TMDs Clock+
11	TMDs Clock Shield
12	TMDs Clock–
13	CEC
14	Reserved (in cable but N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

- Mini USB TYPE B (for S5201B/S5301WB)



Pin	Description
1	Vbus
2	D–
3	D+
4	ID
5	GND

Power Supply Specification

1. Input Power Specification

Specification	Description
Input Voltage Range	The unit shall meet all the operating requirements with the range 90 ~ 264 VAC
Frequency Range	The unit shall meet all the operating requirements with an input frequency range 47 Hz ~ 63 Hz
Power Consumption	Normal operation: 352W (Max) standby mode: < 1W, at 100 ~ 240VAC, monitor out function off, LAN function off, 12V outlet off
Regulation Efficiency	80 % (typical) measuring at 115Vac and full load

2. Output Power Requirement

The power supply can provide DC output as below :

NO.	Voltage	Regulation	Load Current Range	Ripple & Noise
1	+12 V	10 %	0 A ~ 2 A	240 mV
2	+5V	5 %	0.03 ~ 0.1A	100mV
3	+380V	370~400	0.2A	25V

3. Lamp Power specifications

Specification	Description
Applicable Lamp	Nor: 230W, Eco: 170W, AC operation
Starting pulse from Ignitor	2.1KV Min.

4. Power Protection

Item	Criteria
Short protection	No damage
OVP	5V: 6 ~6.5V, 12V: 13 ~16V, 380V: 450 ~490V <30ms
OPP	DC-DC 120~160%

5. Surge test: Meet EN61000-4-5

L ↔ N 1KV, L, N ↔ PE 2KV, Criteria B

6. Electrical Fast Transients (EFT):Meet EN61000-4-4

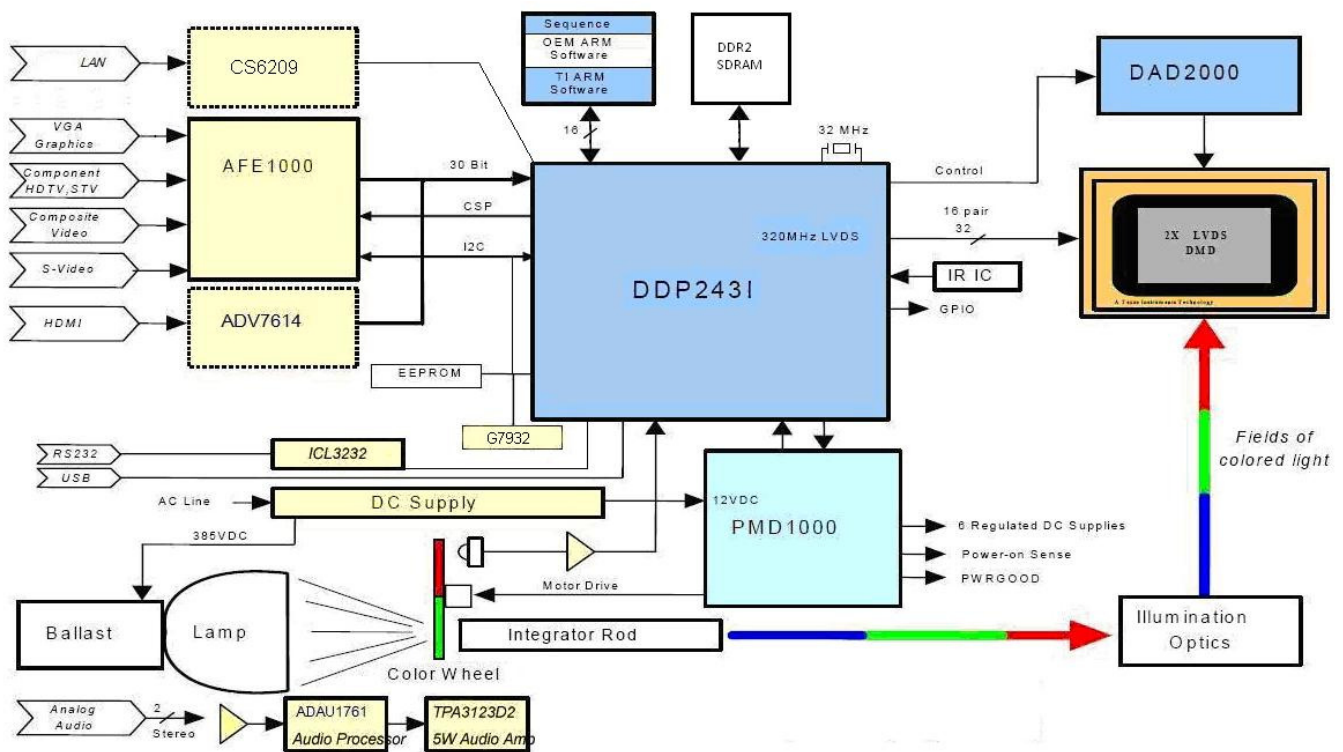
2 KV, Criteria B

7. Voltage Dips: Meet EN61000-4-11

0% 250 cycle; 40%, 70% reduction 5 cycle, no damage

8. Harmonic current test: Meet EN61000-3-2

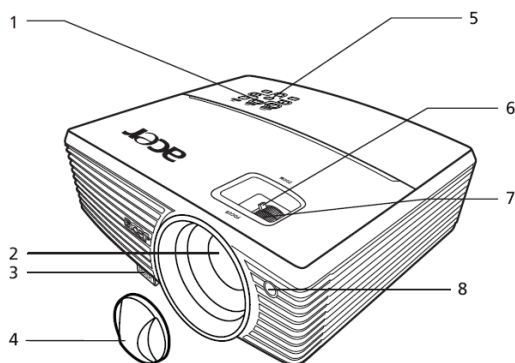
System Block Diagram



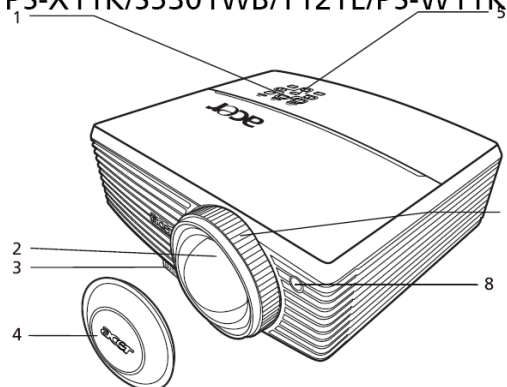
Product Overview

Front / upper side

(P5206/N216/PN-X13)



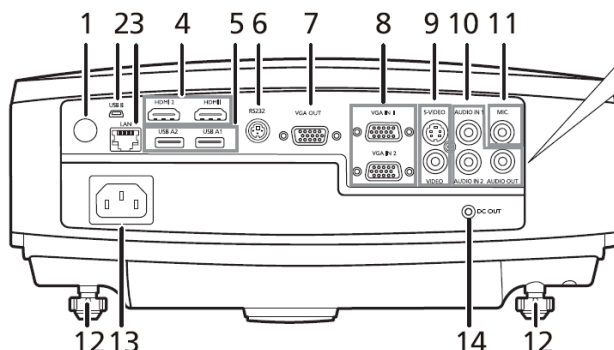
(S5201/T111/PS-X11/S5201B/T111E/
PS-X11K/S5301WB/T121E/PS-W11K)



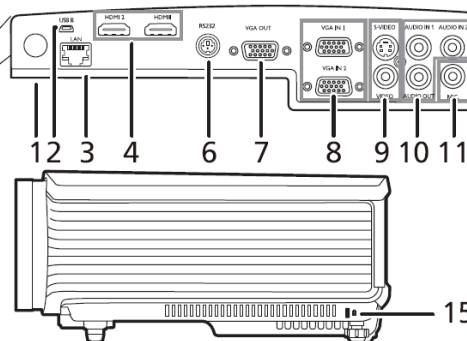
#	Description	#	Description
1	Power key and Power indicator LED	5	Control panel
2	Projection lens	6	Zoom ring
3	Elevator button	7	Focus ring
4	Lens cap	8	Remote control receiver

Rear side

(S5201B/T111E/PS-X11K/S5301WB/
T121E/PS-W11K)

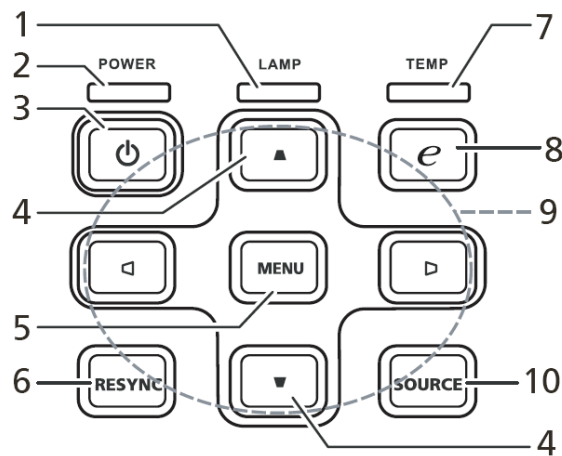


(P5206/N216/PN-X13/S5201/T111/
PS-X11/)



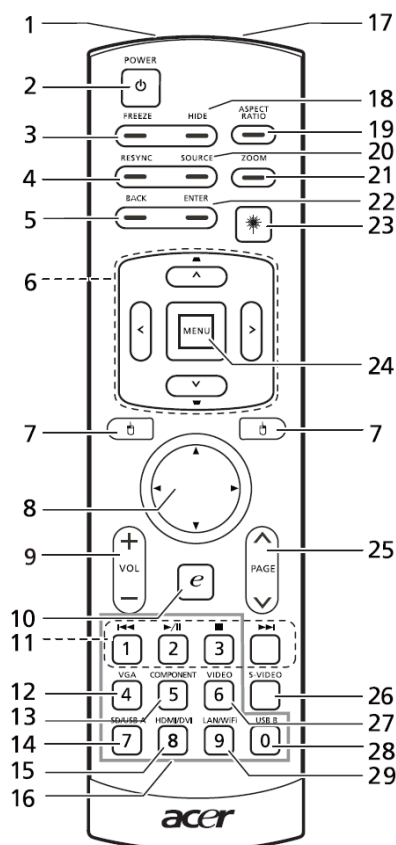
#	Description	#	Description
1	Remote control receiver	9	S-Video input connector/ Composite video input connector
2	USB connector (Type mini B)	10	Audio input connector/ Audio output connector
3	LAN (RJ45 port for 10/100M Ethernet)	11	Microphone input connector
4	HDMI connector	12	Tilt adjusting wheel
5	USB connector (Type A)	13	Power socket
6	RS232 connector	14	12V DC output connector
7	Monitor loop-through output connector	15	Kensington™ lock port
8	PC analog signal/HDTV/component video input connector (VGA IN 1/ VGA IN 2)		





Control Panel





#	Function	Description
1	LAMP	Lamp indicator LED
2	POWER	Power indicator LED
3	Power key	Refer to the "Turning the Projector On/ Off" section.
4	Keystone	Adjusts image distortion caused by tilting projection (± 40 degrees).
5	MENU	<ul style="list-style-type: none"> Launches the Onscreen Display (OSD) menu, returns to the previous step for the OSD menu operation or exits the OSD menu. Confirms your selection of items.
6	RESYNC	Automatically synchronizes the projector to the input source.
7	TEMP	Temp indicator LED
8	Empowering key	Enables unique Acer functions: eView, eTimer, eOpening, ePower Management.
9	Four directional select keys	Selects items or makes adjustments to your selection.
10	SOURCE	Chooses RGB, component video, S-Video, composite video, HDMI™ or HDTV source.

Remote Control Layout



#	Function	Description
1	Infrared transmitter	Sends signals to the projector.
2	POWER	Refer to the "Turning the Projector On/Off" section.
3	FREEZE	To pause the screen image.
4	RESYNC	Automatically synchronizes the projector to the input source.
5	BACK	Goes back to the previous selection.
6	 Keystone	Adjusts image distortion caused by tilting projection (± 40 degrees).
	 Four directional select keys	Selects items or makes adjustments to your selection.
7	 Mouse button	This function is not available with the projector.
8	 Four directional select pad	Selects the media files in four directions.
9	VOL +/-	Increases/decreases the volume.
10	Empowering key	Enables unique Acer functions: eView, eTimer, eOpening, ePower Management.

#	Function	Description
11	 ◀◀ Rewind ▶/ Play/Pause ■ Stop ▶▶ Fast-forward	Rewinds/Plays/Pauses/Stops/Fast-forwards the playing media files.
12	VGA	To change source to VGA. This connector supports analog RGB, YPbPr (480p/576p/720p/1080i/1080p), and YCbCr (480i/576i).
13	COMPONENT	To change source to Component video. This connector supports YPbPr.
14	SD/USB A	To change source to SD/USB A. This projector supports various formats for photo/audio/video files.
15	HDMI™/DVI	To change source to HDMI™/DVI (for the model with HDMI™/DVI connector).
16	Keypad 0~9	Press "0~9" to input a password in the "Setting > Security" OSD.
17	Laser pointer window	Shines the laser point light when the Laser button is pressed.
18	HIDE	Press "HIDE" to hide screen image; press again to display the image.
19	ASPECT RATIO	To choose the desired aspect ratio (Auto/4:3/16:9).
20	SOURCE	Chooses RGB, component video, S-Video, composite video, HDMI™, or HDTV source.
21	ZOOM	Zooms the projector display in or out.
22	ENTER	Confirms your selection of items.
23	 Laser	Emits visible laser pointer light for presentation purposes. This function is not available for the projectors sold in the Japanese market.
24	MENU	Launches the Onscreen Display (OSD) menu, returns to the previous step for the OSD menu operation or exits the OSD menu.
25	PAGE ^/v	For computer mode only. Use the button to select the next or previous page. This function is only available when connected to a computer via a USB cable.
26	S-VIDEO	To change source to S-Video.
27	VIDEO	To change source to Composite video.
28	USB B	To change source to USB B.
29	LAN/WiFi	To change source to LAN/WiFi. (for LAN/wireless compatible models)

Chapter 2 System Utilities

Firmware Upgrade SOP

Basic Operating

● Low-Power Standby Mode :

This mode is applied for normal situation. If you want to enter this mode, you could just plug in power cord. Power LED will show Red for 1 sec then show Orange.

When the power LED shows Red, it means system is not ready for low-power standby. In another word, if the power LED shows Orange, it means system is in low-power standby mode and the whole system is not supported by power except MCU and its related circuits. Meanwhile, the power consumption should under 1W.

● Download Mode :

This mode is applied for Download firmware or debug.

One method to enter this mode is that you should press and hold keypad **Power** and **Menu** together, then plug in power cord. Release the two keypads until the Power LED show **Power, Lamp and Temp LED show Red continuously**

The other method is to type RS-232 Command : <CR>*Stby=H#<CR>

In full-power standby mode, system will be supported by full power but not turn on projector. You can use DLP composer and communicate with DLP ASIC. Thus, you should download firmware in this mode.

● Full-Power Standby Mode :

This mode also can download FW, you should press and hold keypad **Power** and **Source** together, then plug in power cord. Release the two keypads until the Power LED show Red continuously.

Download MCU Code, LAN and Firmware

1. Download WT61P803/WT6702 MCU Code : (in Low - Power Standby, for S5201 all series)

Condition :

Situation 1 : MCU code is empty (The 1st time to plug in power cord)

Situation 2 : MCU version update

System Action :

System needs a few sec to download MCU automatically.

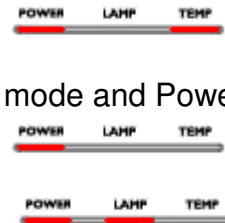
Downloading : POWER and Temp LED will show red.

Download Success : System will go back Low-Power standby mode and Power LED will show red.

Download Fail : POWER and Lamp LED will show red.

Notice :

Do NOT interrupt power when downloading.



2. Download CS6209 LAN Firmware : (for S5201)

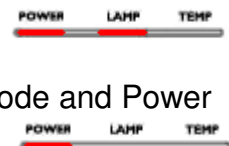
Firmware Download Procedure :

1. Enter Factory Mode page 7
2. Under CS6209, set Lan Download → On
3. Turn off projector, and the projector will download LAN firmware automatically.

System Action :

Downloading : POWER and LAMP LED will show RED.

Download success : system will go back low-power standby mode and Power LED will show RED.



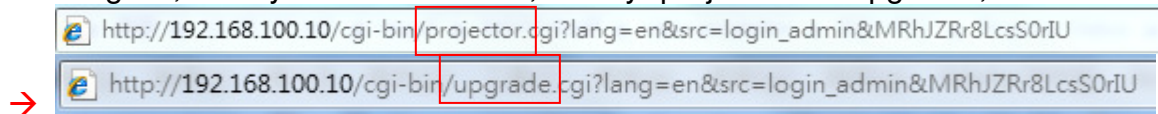
3. Download AWIND Firmware : (for S5201B/S5301WB Extension board)

Awind firmware Upgrade procedure :

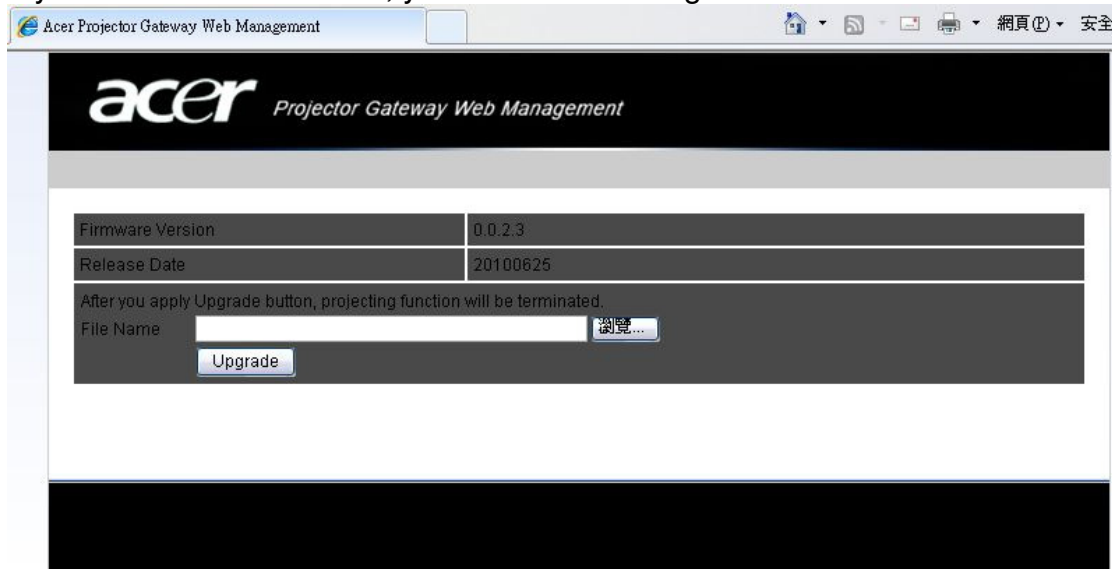
1. Turn on projector
2. Connect PC and projector RJ45 connector with CAT 5 wire directly
3. Change projector source to LAN source(must enter OSD to turn on LAN first)
4. Wait about 10~20 sec
5. Open PC Browser and enter 192.168.100.10
6. Please connect to web and click "Advance" to log in as root. (hint: password->123456)



7. after login it, modify the web address, modify “projector” to “upgrade”, as below



8. If your connection success, you will see following web:



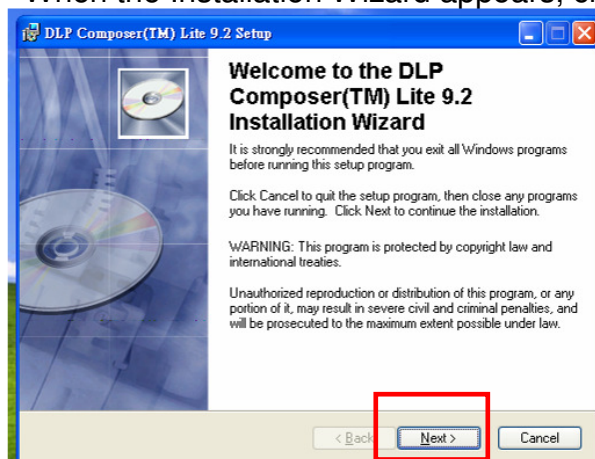
9. Select image file (*.img) and press Upgrade.
10. Wait count down to finish upgrading.

4. Download Main Firmware(For all series) :

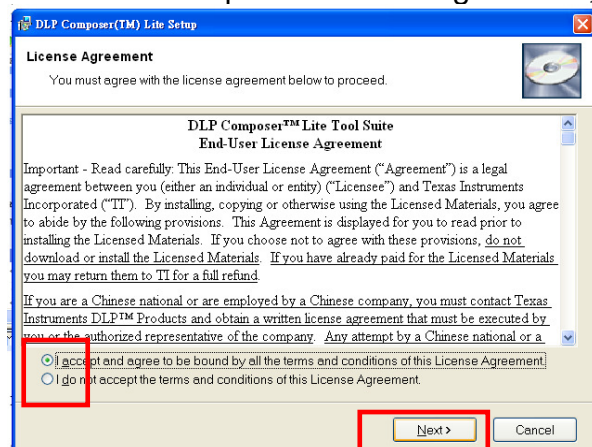
DLP Composer Lite Installation Process

(1) Installation

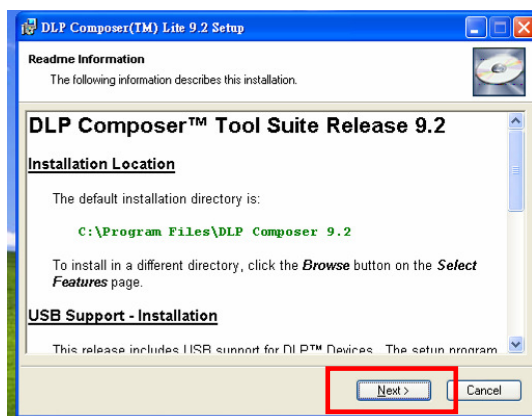
1. Double click the Setup file for DLP Composer Lite 9.0 or above version.
2. When the Installation Wizard appears, click “Next”.

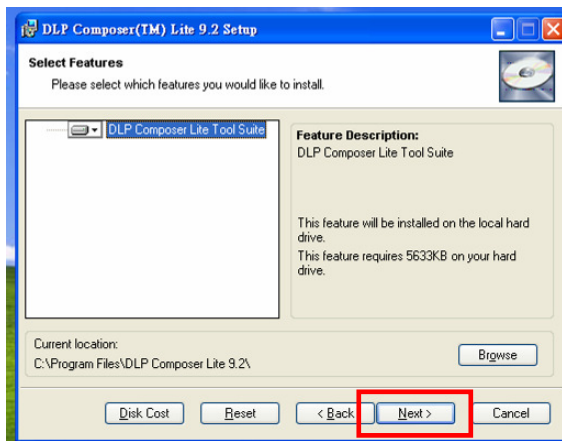


3. Select to accept the License Agreement, then click “Next”



4. Click “Next” in the following steps to continue installation process.



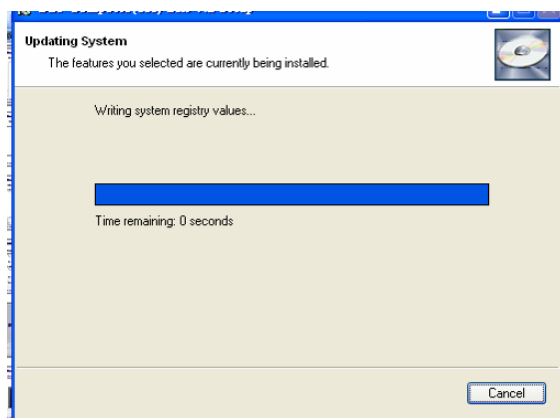
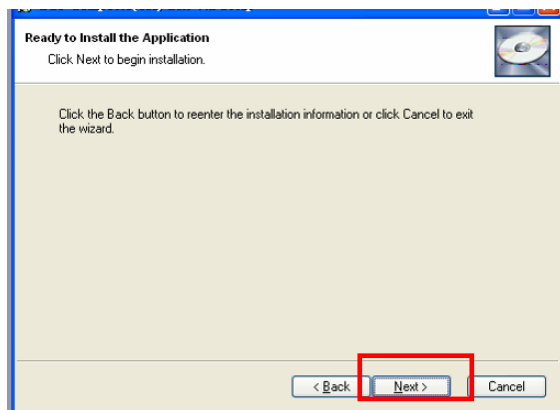


Note:

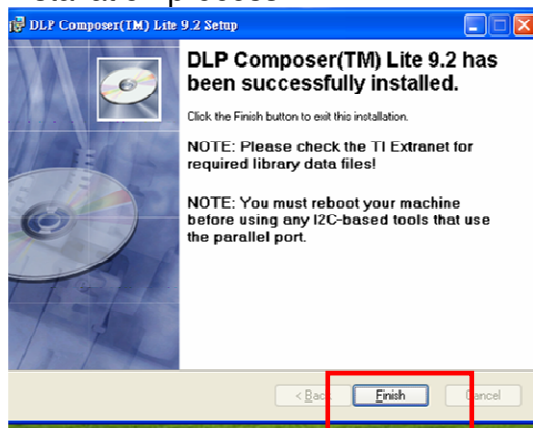
The default installation directory is:

C:\Program Files\DLP Composer Lite9.2

If you want to install to a different directory (perhaps alongside a prior release of DLP Composer™ Lite), click the "Browse" button on the "Select Features" page.



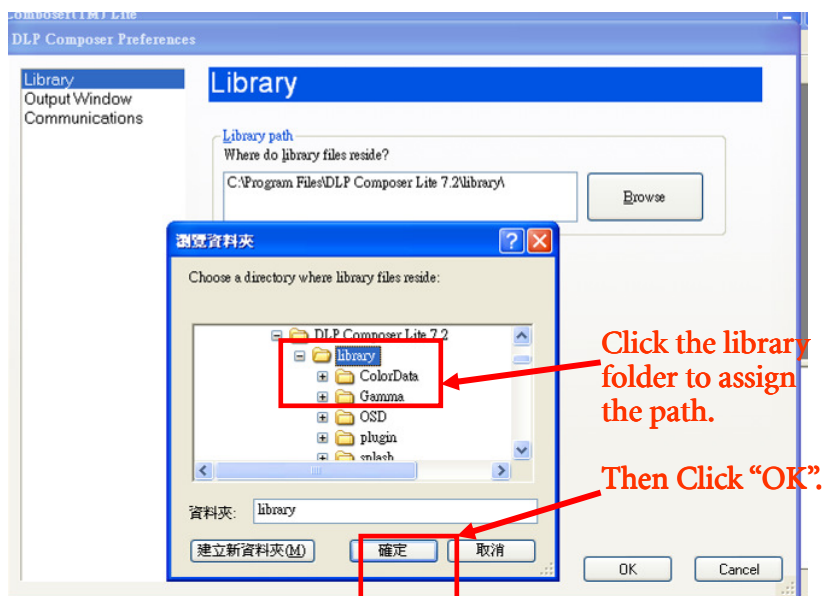
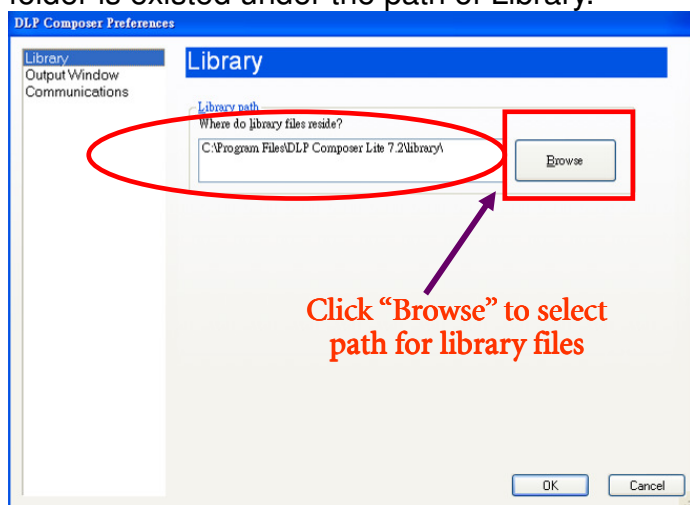
- When finishing installation, click "Finish", and then restart your computer to complete the installation process.



(2) Setting for your first use

● Select Library:

1. When start to use this program to download at first time, you need to check if the library folder is existed under the path of Library.

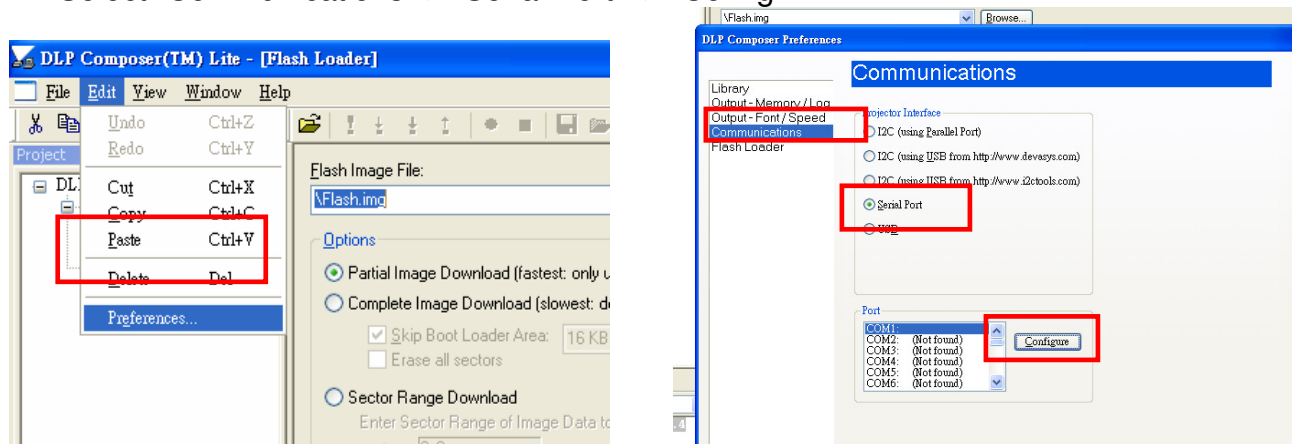


2. Check if there are library files in the assigned path. If not, unzip the library file into the path. (You can unzip "DDP243x_Download_Tool_Ver1.2.rar" to get the library.)

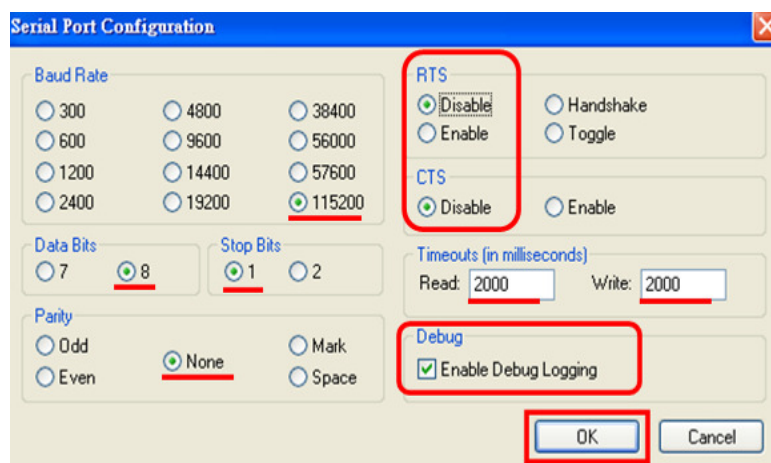


- **Set communication (for download by RS232):**

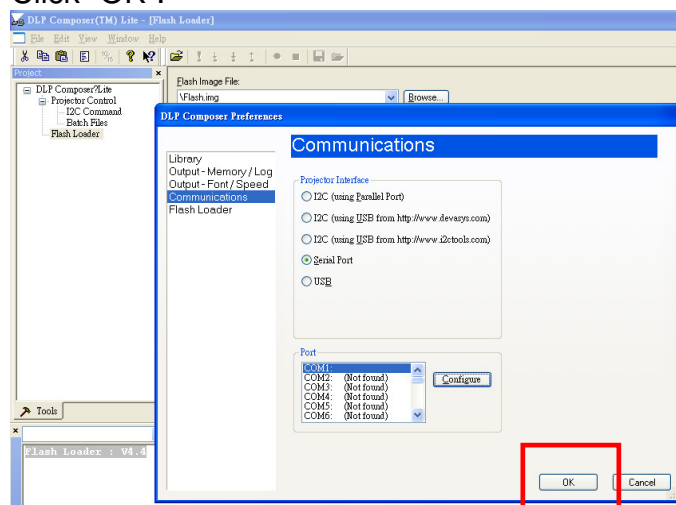
1. Select "Edit"->"Preference".
2. Select "Communications"-> "Serial Port" -> "Config".



3. Make sure the settings are the same as below figure-> Click "OK".



4. Click "OK".



(3) Download Procedure

● How to download

Hardware required

1. Standard RS232 Download cable (Mini Din 3 pin male for Both terminals)
2. Personal computer or laptop computer

Software required

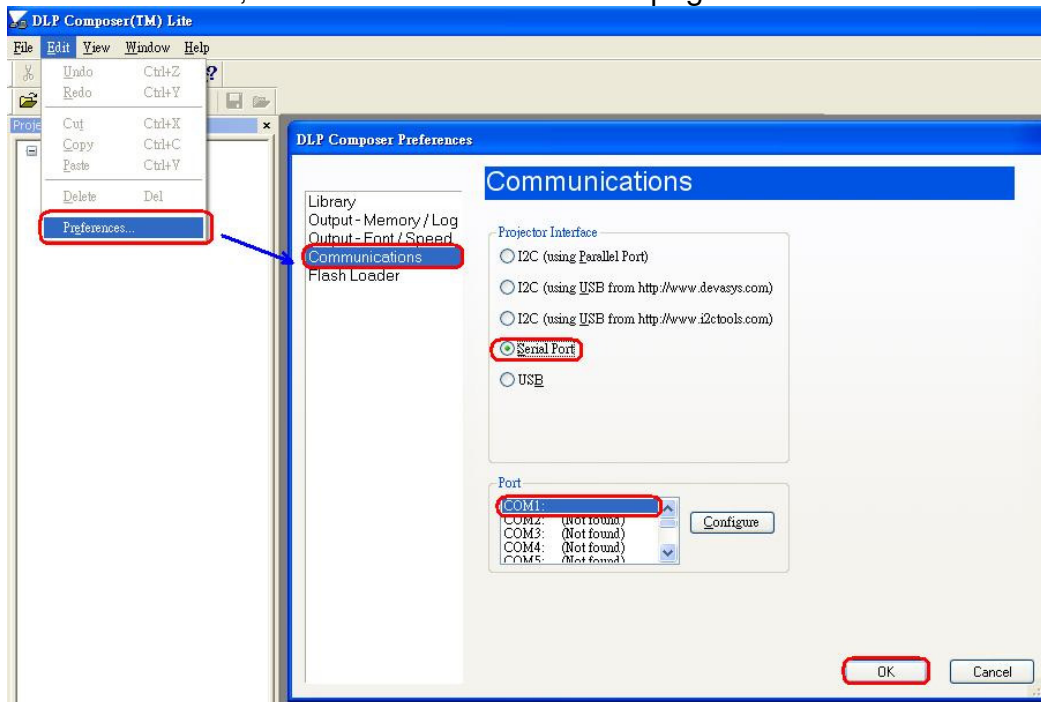
1. DLP Composer Lite program
2. New version FW

Download procedure

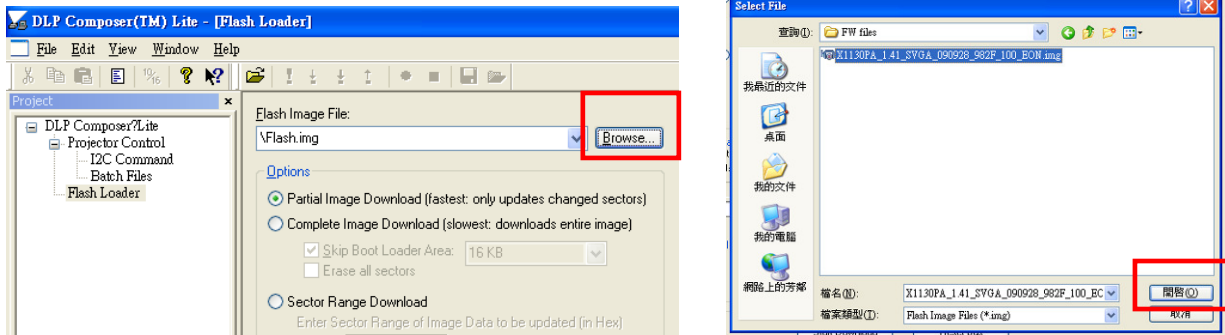
- a. Connect RS-232 cable to PC and projector
- b. Let projector be in **Download Mode** or **Full-power standby mode** :
 - > Press and hold keypad Power and Menu together, then plug in power cord.
 - > Release the two keypads.
 - > Power, Lamp and Temp LED show Red continuously.
- c. Execute DLP Composer Lite 9.0 or above version program



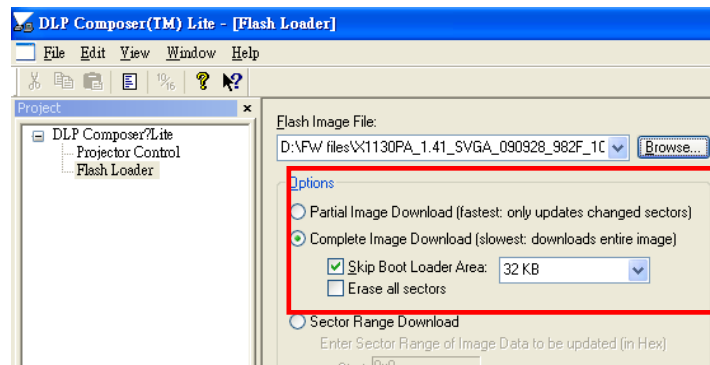
- d. To select the RS-232 communications interface, choose "Preferences" from the "Edit" menu, click the "Communications" page and choose "Serial Port".



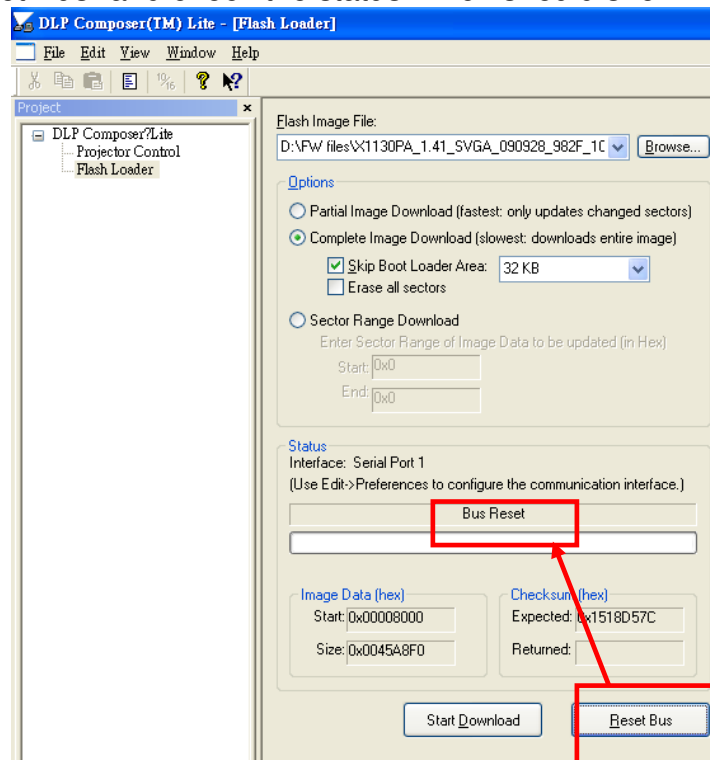
- e. Click on “Flash Loader” and browse the image file (new version firmware)



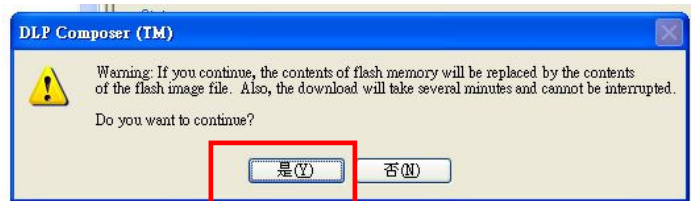
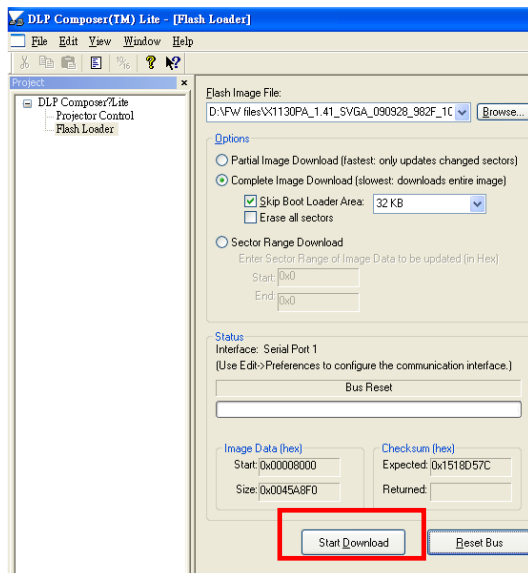
- f. Select Complete Image Download, and make sure to check “Skip Boot loader area (32KB)”



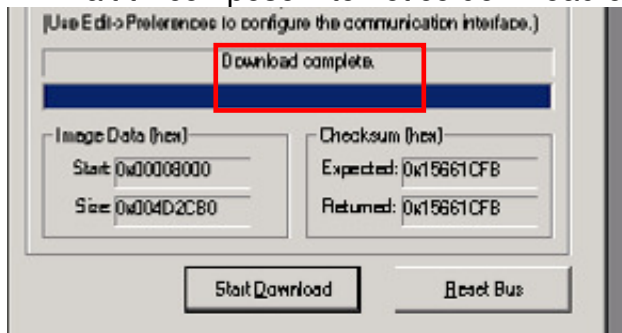
- g. Press “Reset Bus” and check the status which should show “Bus Reset”



- h. Press “Start Download” to begin update new firmware.
i. Press “Yes” to continue. (when download new firmware and power LED will show purple.)



j. Wait till composer lite notice download complete.



When download complete, LED signal on projector will show standby status.

Method to enter factory menu

1. Press keypad **Power** and image will show Power Down OSD function
2. Press keypad **Left** twice then press **Menu**, then enter the Factory mode.



EDID Upgrade SOP

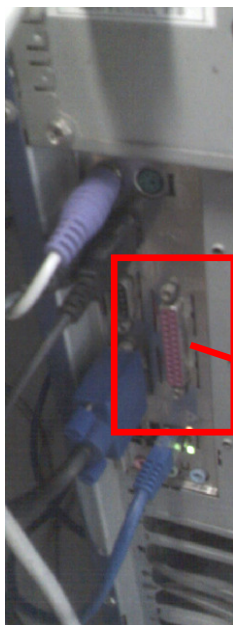
Equipment List

1. PC : with parallel (printer) port
2. EDID Board
3. Printer cable : 25pin male-female (connect PC to EDID board)
4. D-sub cable* : with full 15pin (connect EDID board to Projector)
5. HDMI cable*(connect EDID board to Projector)
6. DVI cable* (connect EDID board to Projector)

(*Note: Not every model's EDID input (D-sub, DVI, HDMI) is the same. Need to check what kind of file you need before download.)

Setup Equipment

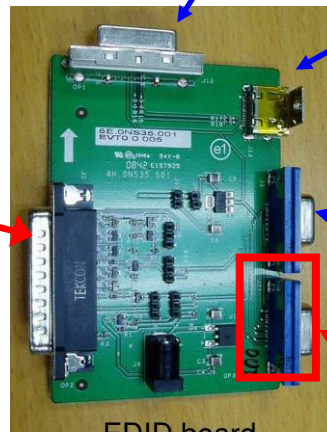
1. Let projector be in **Full-power standby mode** (Press “Power” and “Source” and plug in power cord into Projector immediately.)
2. Connect between PC, EDID board and the Projector:



PC with parallel (printer) port



“25pin male-female cable” (normal printer cable)



EDID board

Link to Projector : For DVI-D DDC download (no need in X1130/ X1230/ X1230S/ X1235/ X1230K series)

Link to Projector : For HDMI DDC download (no need in X1130/ X1230/ X1230S/ X1235/ X1230K series)

Please ignore this connector

Link to Main board : For D-sub DDC download

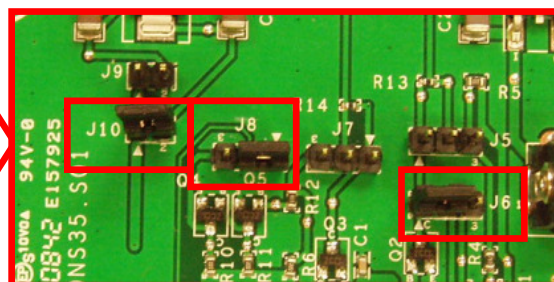
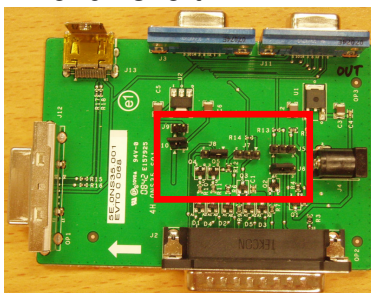
3. Need to set Jumper before using EDID board :

<Jumper setting >:

J6 : 1,2 short

J8 : 1,2 short

J10 : short



3. How to use Download Tool :

Software Installation, Un-installation :

- Unzip the “Q-EDID” program files in the same directory.
- Install Q-EDID tool : Execute “Install Q-EDID.BAT” to install & register EDID Board into the computer.



- Un-install Q-EDID tool : If you want to uninstall this tool, execute “Uninstall Q-EDID.BAT”, then it will remove EDID Board from the computer.



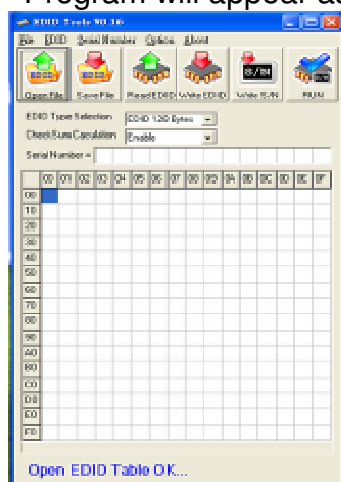
How to use Download Tool :

(1) Execute EDID Tools V0.16:

1. Run “Q-EDID-V016.exe”.



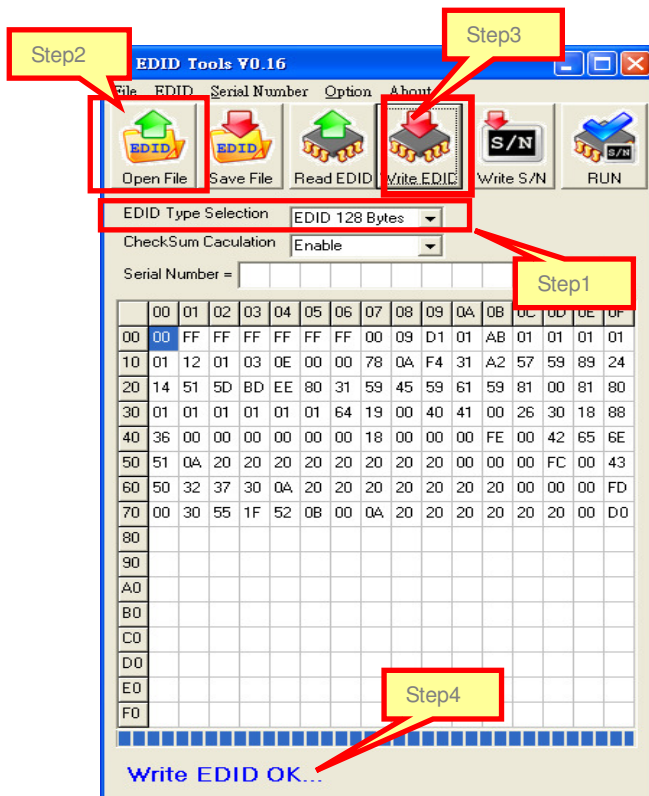
2. Program will appear as below picture.



(2) Write EDID:

- **When write D-SUB/DVI EDID:**

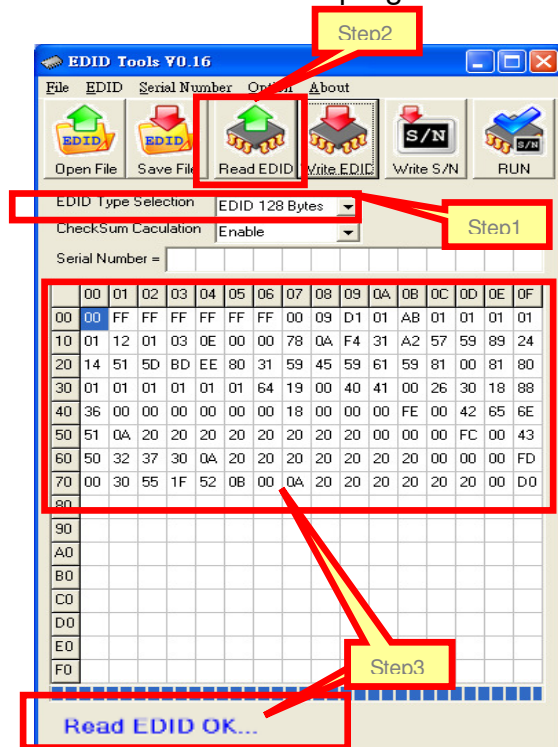
1. EDID Type Selection : Choose “EDID 128 Bytes”.
2. Open Files : Click “Open File” to select file “*.DDC”
(Note : If your DDC file name is not like “*.DDC” (e.g. “*.2dc”), please rename it to “*.DDC”)
3. Write EDID : Click “Write EDID”, and it will execute writing process.
4. While complete, it will show message as “Write EDID OK...”.
(Note : Check cable connection before write. It will show Write EDID OK even the connection is not stable.)



(3) Read EDID:

- **Read D-SUB/DVI EDID:**

1. EDID Type Selection : Choose "EDID 128 Bytes"
2. Read EDID : Click "Read EDID".
3. While complete, it will show message "Read EDID OK...", and the read-out DDC will show in the table in program.



Important Note :

- Be reminded to connect Only One port every time, because the software will not be able to identify the command signal from which port.
- After connecting all equipment, always read DDC before writing DDC to ensure the connection status is OK for writing DDC.

Serial Number Upgrade SOP

Hardware required

1. Standard RS232 Download cable
2. Personal computer or laptop computer

Software required

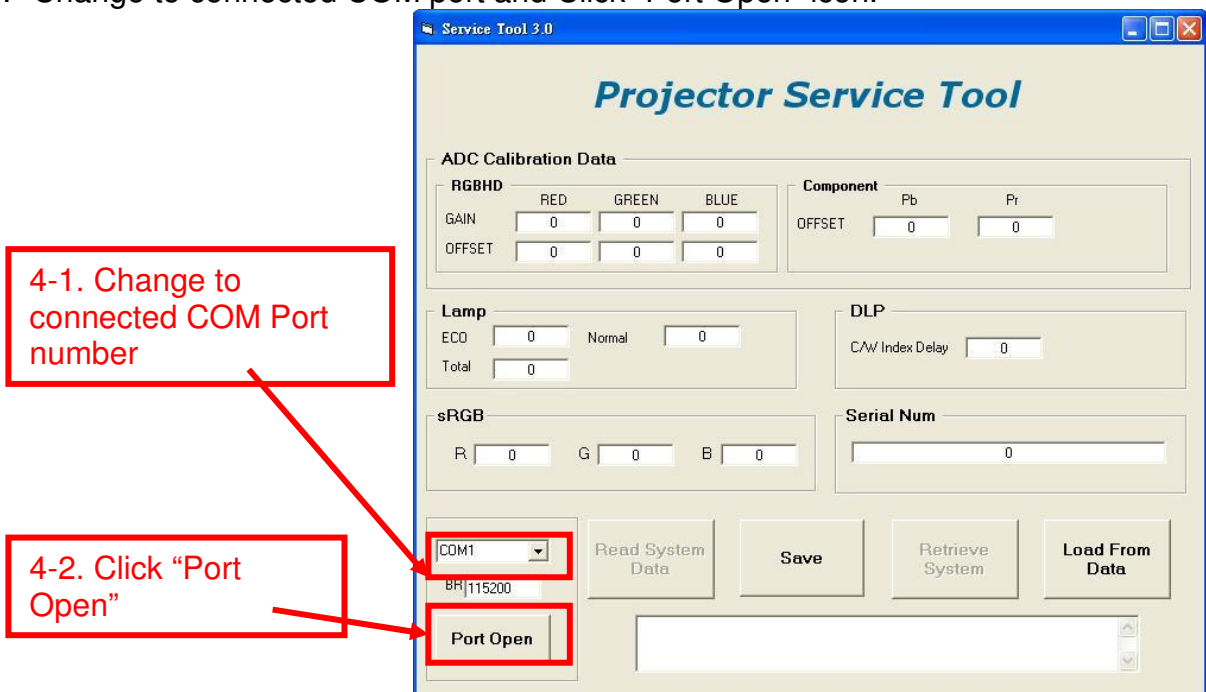
1. Acer_Service_Tool(Data)_3.1.exe

When need to use this Serial Number Upgrade program:

When it's time to replace Main board for repair, it's necessary to rewrite original S/N and some adjustment values into new Main board by the following process.

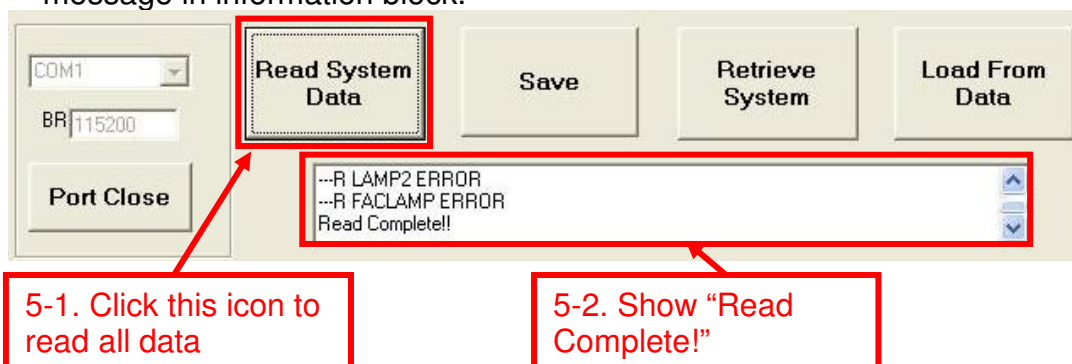
Upgrade procedure

1. Prepare the download equipment: RS232 cable connect to PC and projector
2. Plug power cord into projector, and the projector will be in stand by mode.
3. Execute "Acer_Service_Tool(Data)_3.1.exe", and it will appear as below picture.
4. Change to connected COM port and Click "Port Open" icon.

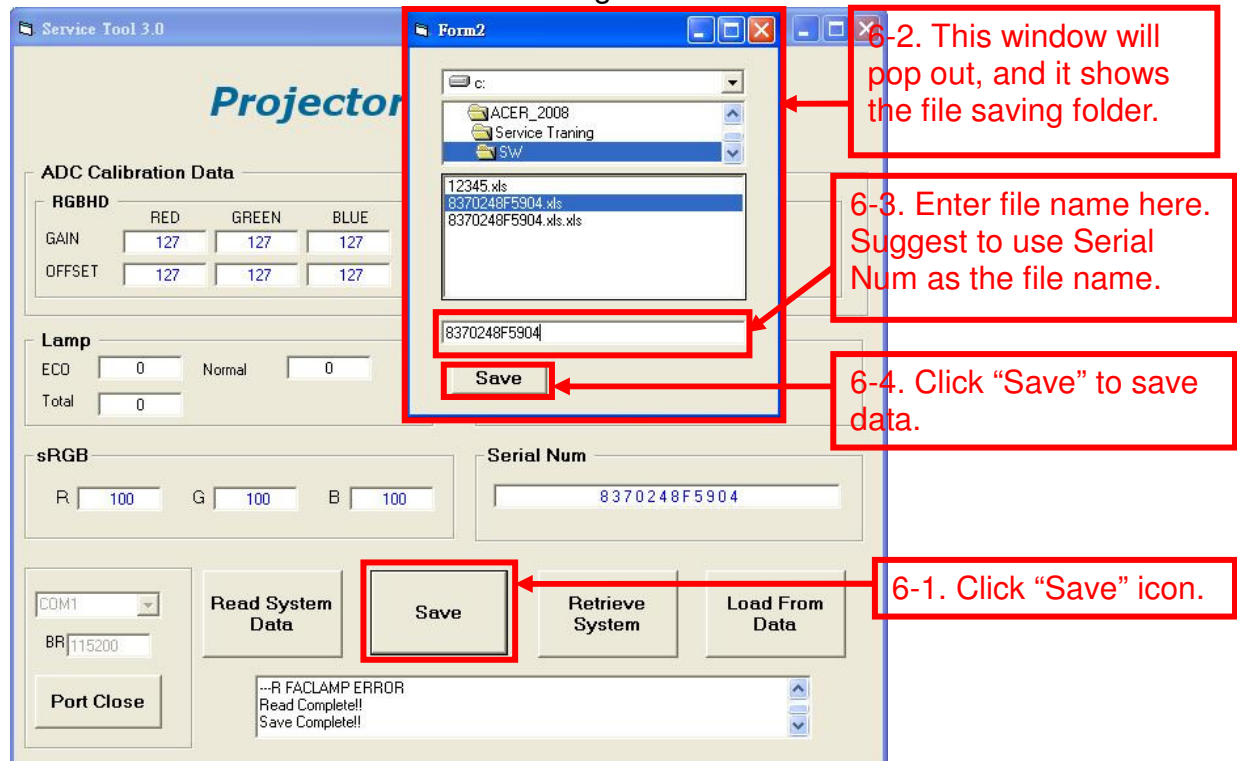


5. Read data from original Main board:

Click "Read system Data", and it will read the Adjustment data (except Auto keystone data) & Serial Number from projector and show the "Read complete" message in information block.



6. Click "Save" to save data into the assigned file name.



7. Change new Main board:

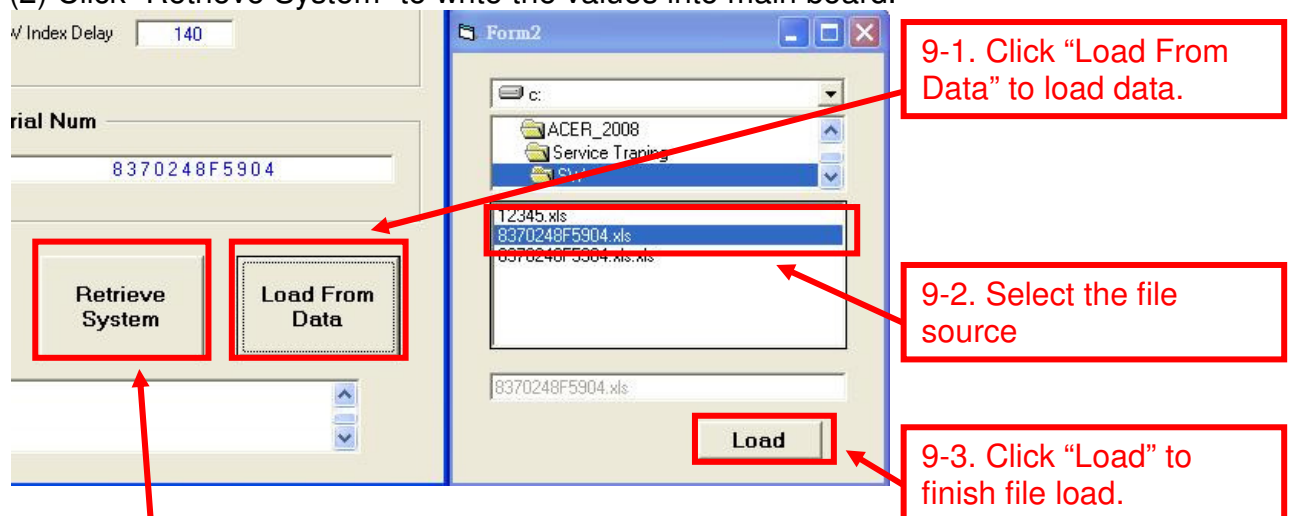
- (1) Unplug power cable and RS232 cable from projector, and change new Main board into Projector.
- (2) After changing Main board, reconnect power cable and RS232 cable into Projector.

8. Write S/N & data into new Main board:

Press "Retrieve System" and write Data & SN to projector.

9. "Load from data" & "Retrieve System" :

- (1) Click "Load from data" and select load file.
- (2) Click "Retrieve System" to write the values into main board.



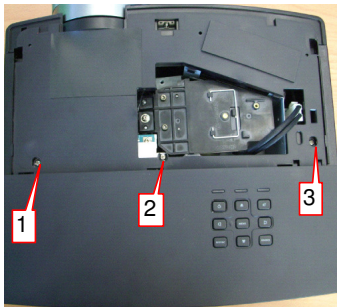
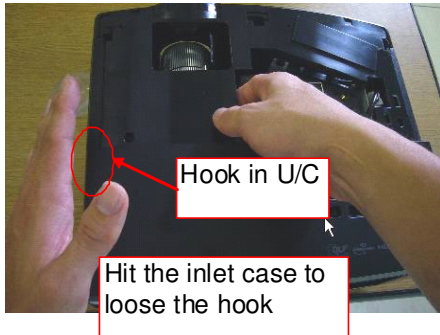

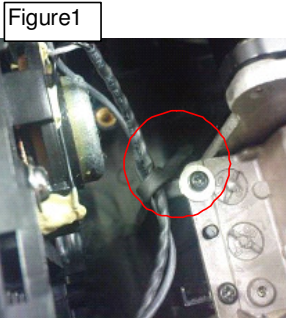
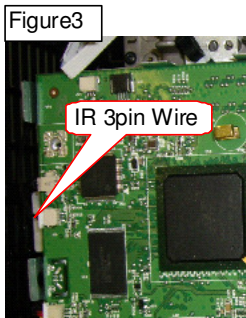
10. Click "Retrieve System" to write data.

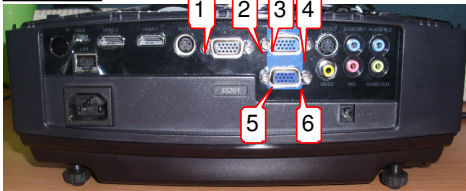
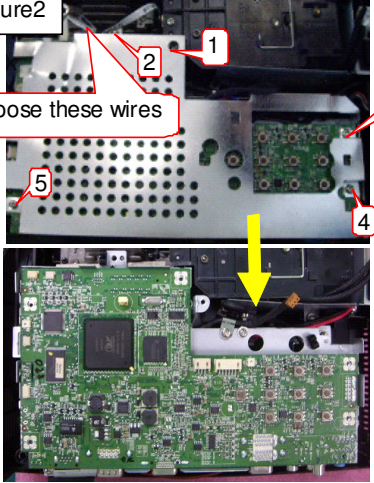
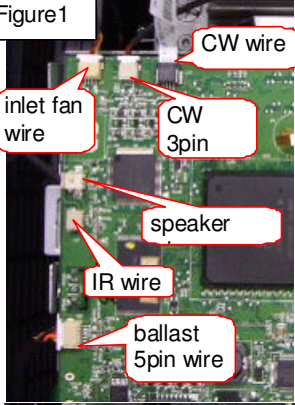
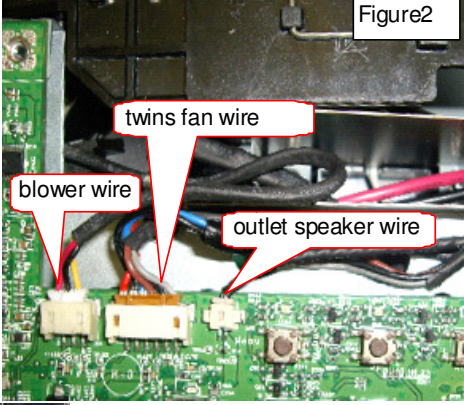
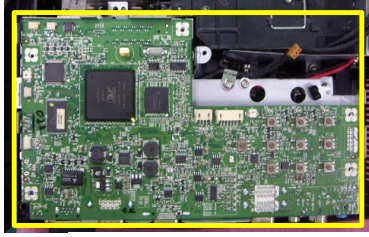
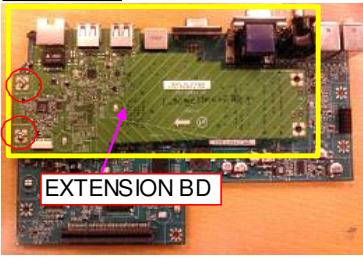
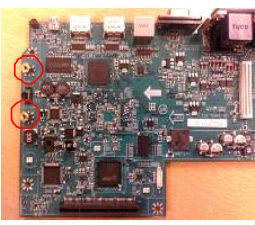
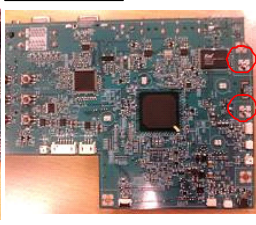
Chapter 3 System Disassembling and Replacement



Main Unit Disassembling

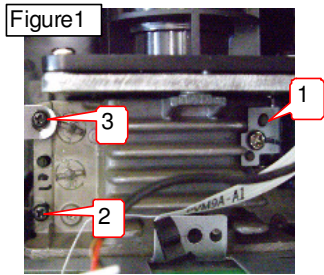
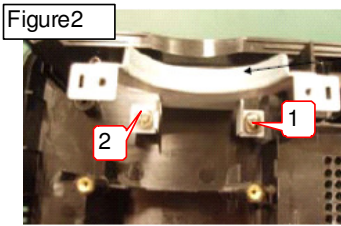

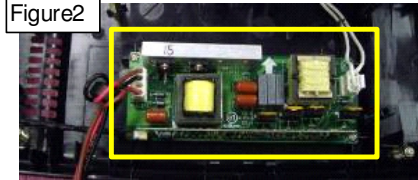

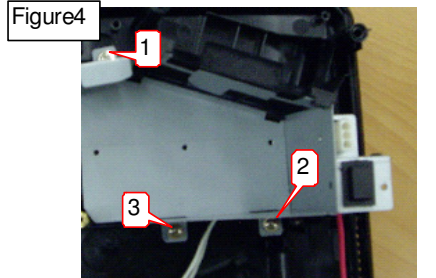
Tool : Screw Driver --Hex (#4-40) and Cross(Mechanical : M3,M4, Opt.Engine :M2)

Process :

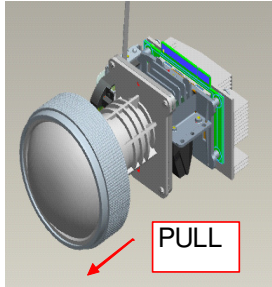
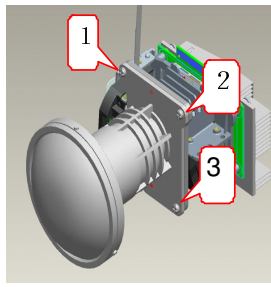
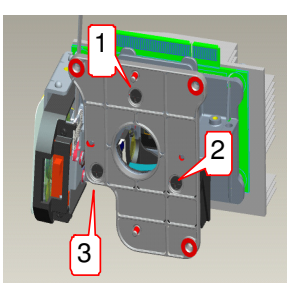
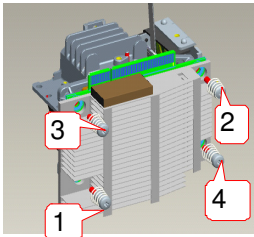

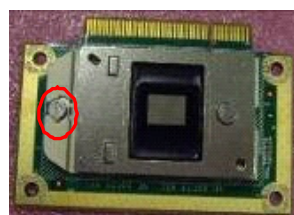
Step	Description		Tool
1	<p>(1) Disassemble the screw*5(M3*L8) in the lowercase and screw*2 (M2.5*L10) in the inlet and outlet case.</p> <p>(2) Take off the lamp-door.</p>	 	screw driver
2	<p>(1) Disassemble the screw*3 (M3*L6) connecting the U/C with the machine(you may need to disclose the film on the upper case).</p> <p>(2) Hit the inlet-case to loose the hook and at the same time lift the upper case.</p>	  	screw driver
3	<p>(1) Untie the tie in the engine and loose the wire in it.(Figure1)</p> <p>(2) Disassemble the screw*1 (M3*L8) connecting the F/C with the L/C.(Figure2)</p> <p>(3) Extract the I/R 3pin wire in the main board and take off the front case. (Figure 3,4)</p> <p>Attention :DON'T TOUCH OR BREAK THE LENS.</p>	    <p>Notice: Please release the IR wire before take off the Front Case.</p>	

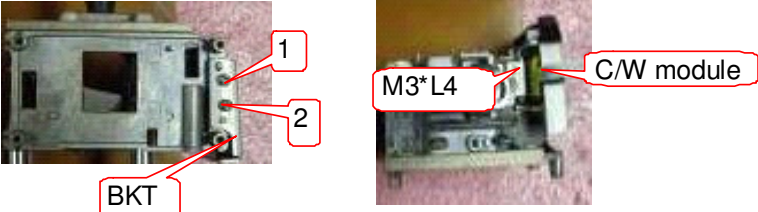
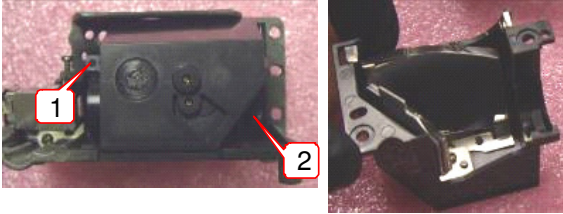
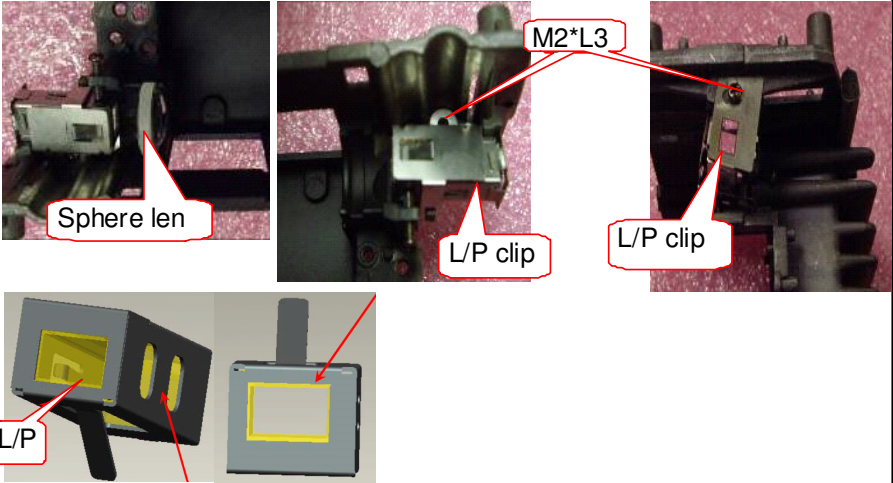
4	<p>(1) Disassemble the screw*6(Hex #4-40*L6), then take off the R/C.(Figure1).</p> <p>(2) Disassemble the screw*5 (M3*L6) and loos the wires connecting the engine and the MB.</p> <p>(3) Take off the SHD of the main board.(Figure2)</p>	<div>   </div>	screw driver
5	<p>(1) Extract all the wires in the mainboard and loose the wire in clips.(Figure1/2)</p> <p>(2) Take off the ourlet case and the Fans*2.</p> <p>(3) Take off the main board. Attention: DON'T TWIST THE PIN UNDER THE M/B.</p>	<div>    <p>Note: Circuit boards > 10cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.</p> </div>	screw driver
6	<p>(1) Dismantle the screws*2 (M3*L6) to loose the EXTENSION BD.(Figure1)</p> <p>(2) Dismantle the STAND OFF(M3 D6*9L) and screws*2 (M3*L6) on M/B.(Figure2,3)</p>	<div>    <p>Note: Circuit boards > 10cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.</p> </div>	screw driver

7	<p>(1) Dismantle the screws *2 (M3*L6) to loose the two wires.(Figure1)</p> <p>(2) Dismantle the Grounding screw (M4*L6) in the shield and loose the Grounding wire. (Figure2)</p>	<div>Figure1</div> <div>S5201/5201B</div> <div>S5301WB</div> <div>Figure2</div>	
8	<p>(1) Dismantle the screws*4 (M3*L8) connecting the PB shield and the L/C, then take off the shield. (Figure1)</p> <p>(2) Take off the inlet case following the way indicated below.(Figure2), then extract all the wires in the power board.</p>	<div>Figure1</div> <div>Figure2</div> <div>At first, push here. (Take apart inlet case)</div> <div>Along arrow, pull inlet case and can take apart inlet case.</div>	screw driver
9	<p>(3) Take off the power board.</p>	<div>Figure3</div> <div>  </div> <div>  Note: Circuit boards > 10cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal. </div>	
10	<p>(1) Extract the white lamp wire in the lamp box, and disassemble the screw*1(M3*L6) connecting the lamp module in the machine, then take off the lamp module. (Figure1)</p> <p>(2) Dismantle the screw*2(M3*L6) of the BKT in the neck of the engine and take off the BKT.(Figure2)</p>	<div>Figure 1</div> <div>Figure 2</div> <div>screw</div> <div>lamp wire</div> <div>2</div> <div>1</div>	screw driver

11	<p>(1) Disassemble the screw*3 (M2.5*L10), then take off the engine. (Figure1)</p> <p>(2) Disassemble the screw*2 (M3*L8) and take off BKT under the engine. (Figure2)</p>	 	screw driver
12	<p>(1) Take off the ballast mylar (Figure1)</p> <p>(2) Extract all the wire in the ballast and the Dismantle the screw*2(M3*L6), then take off the ballast.(Figure2)</p> <p>(3) Dismantle screw*2 (M3*L6) connecting the blower with the machine and take off the the blower.(Figure3)</p> <p>(4) Dismantle screw*3 (M3*L8) connecting the lamp box with the machine and take off the lampbox.(Figure4)</p>	    <p>Note: Circuit boards > 10cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.</p>	screw driver

Optical Engine Dismantle SOP

Step	Discription		Tool
1	<p>(1) Disassemble the ring focus.(pull it out with force.)</p> <p>(2) Disassemble the screws*3 (M3*L6) connecting the len and take off the len carefully. ATTENTION: DON'T TOUCH THE LEN'S SURFACE OR BREAK THE LEN.</p> <p>(3) Disassemble the screws*3 (M3*L4) connecting the frame and take off the frame.</p>	  	screw driver
2	<p>(1) Disassemble the spring screws*4(M3*L7.5) connecting the Hsink and take it off.</p> <p>(2) Take off the chip under the Heatsink and the baffle under the chip.</p> <p>(3) Rotate the switch to loose the chip and take it off.</p>	   <p>Note: Circuit boards > 10cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.</p>	screw driver

3	<p>(1) Disassemble screws*2 (M3*L5) connecting the BKT and take it off.</p> <p>(2) Disassemble screw*1 (M3*L4) and take off the C/W module.</p>		screw driver
4	<p>(1) Dismantle screws*2 (M2.5*L5) connecting the ILL module and take it off.</p> <p>(2) Take off the detail parts in the ILL module if necessary.</p>		screw driver
5	<p>(1) Take off the Sphere len in the HSG</p> <p>(2) Dismantle screws*2 (M2*L3) to loose the clip covering the L/P module.</p> <p>(3) Take off the L/P module.</p>		screw driver

Module Assembly Key Point - Optical Engine

1. Light Pipe Module assembly and overfill alignment

1.1 Assembly LP Module to HSG DMD

- i. Assembly two Overfill adjustment screws to HSG DMD (Fig. 1-1).
** Adjustment criteria refer to below item (Fig. 1-2).
- ii. Assembly “Clip LP” and lock with screw well (Fig. 1-3).
- iii. Press CLIP of RE_BKT_LP first, and then push it into the hole (Fig. 1-4).
- iv. Placed LP Module on LP datum of “DMD HSG” and adjustment screw well, shown
- v. (Fig. 1-5).
- vi. Assembly “Baffle LP” first (Fig. 1-6) & push “Baffle LP” to hook DMD HSG (Fig. 1-7).
- vii. When Lock the screw of Baffle LP, the hand must push the left corner of Baffle LP before (Fig. 1-8).
- viii. Lock the screw of Baffle LP well then release the hand (Fig. 1-9).

1.2 Overfill Adjustment @ LP Module

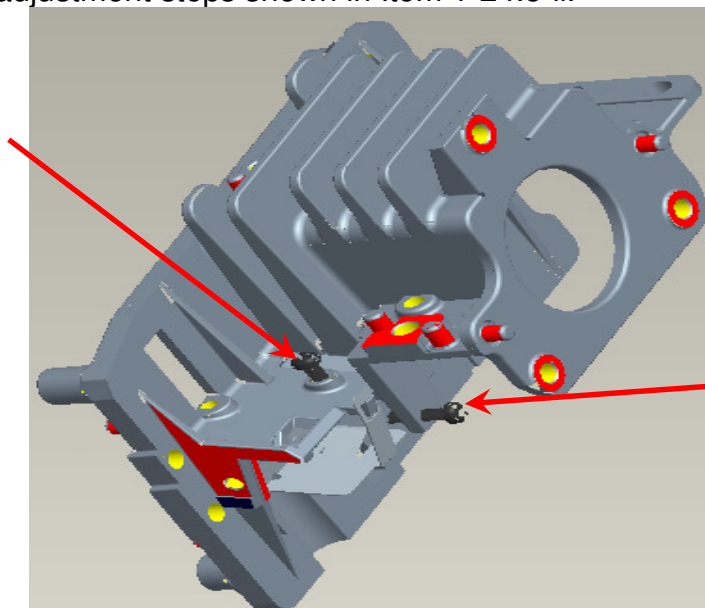
Overfill Adjustment Criteria:

- i. Pre-assembly 2 adjusting screws. Criteria shown as (Fig.1-2)
- ii. Alignment Sequence:
 - a. To adjust “Horizontal Adjustment Screw” firstly, and then “Vertical Adjustment Screw”.
 - b. Refer to Fig. (1-2)

1.3 For Overfill Re-adjustment:

- a. Those 2 Adjustment Screws must be released closely to the “Pre-assembly” positions first (Fig. 1-24-9).
- b. Follow adjustment steps shown in Item 1-24.5-ii.

Overfill Vertical
Adjustment Screw



Overfill Horizontal
Adjustment Screw

Fig. 1-1

Pre assemble this screw
not over the side
surface.

Pre assemble this screw not
over the bottom surface.

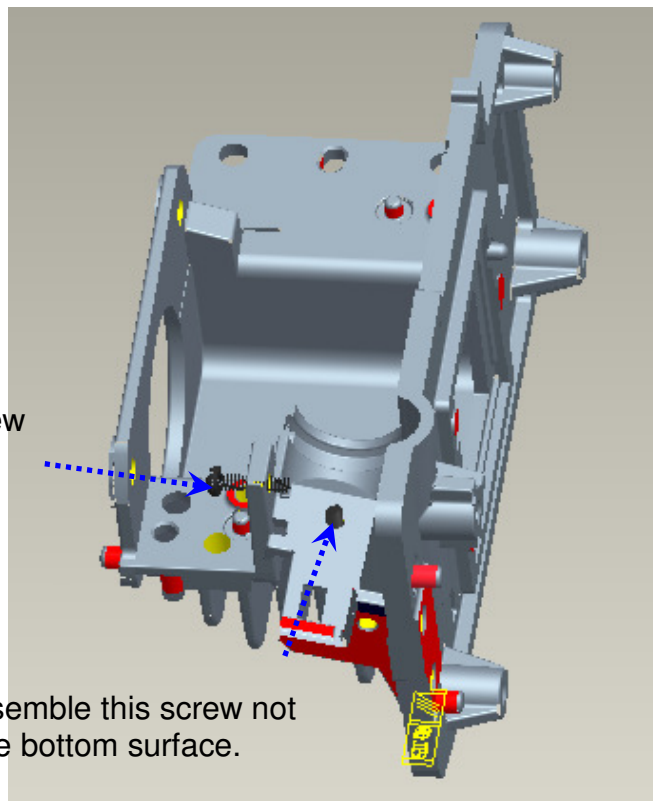


Fig. 1-2

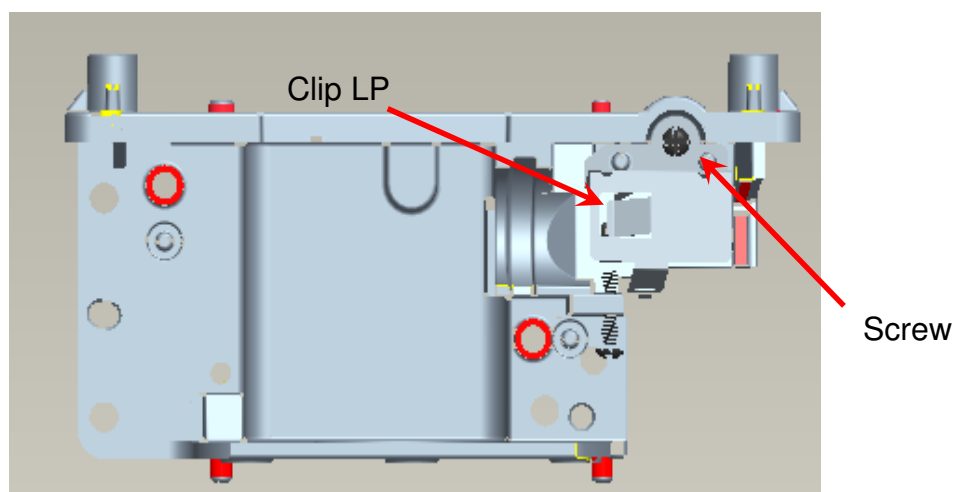


Fig. 1-3

1. Press down
the Clip

2. Insert the
LP Module

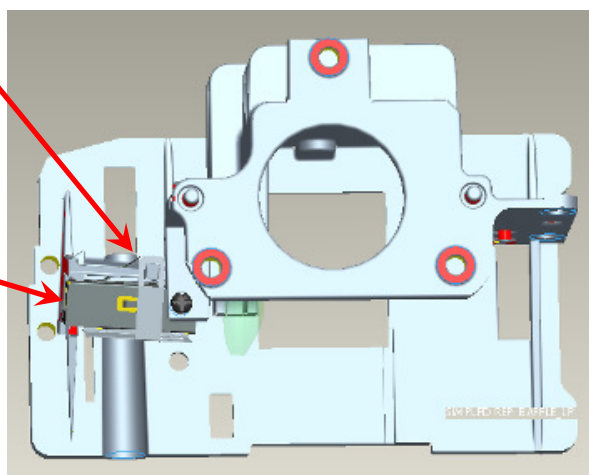
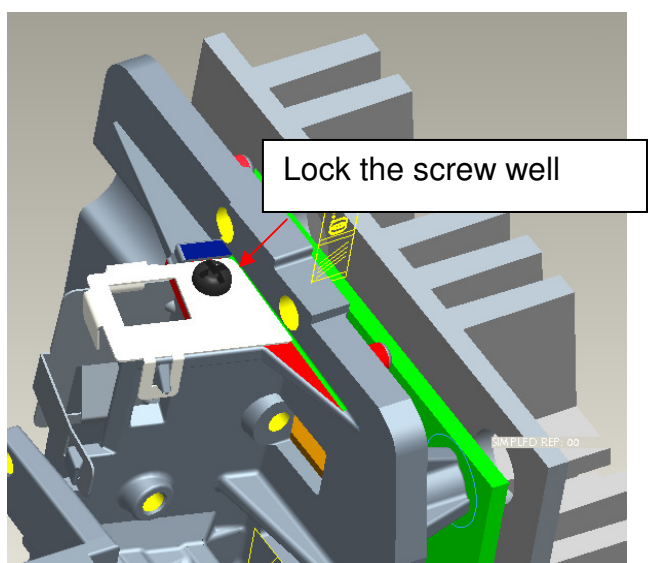
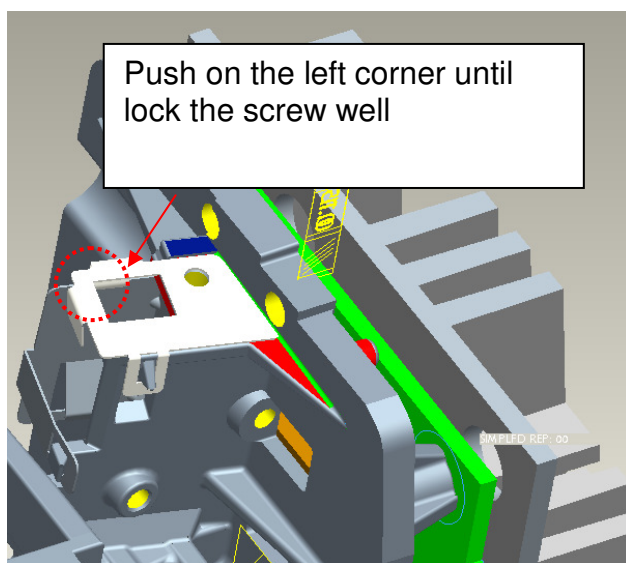
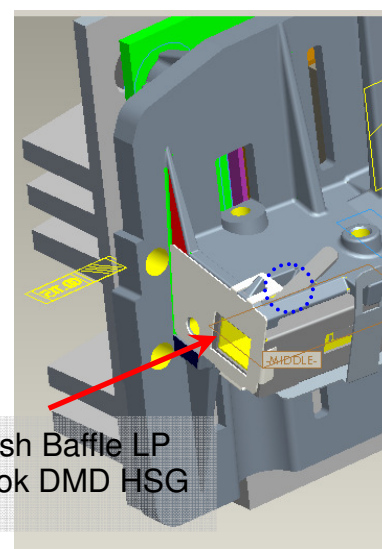
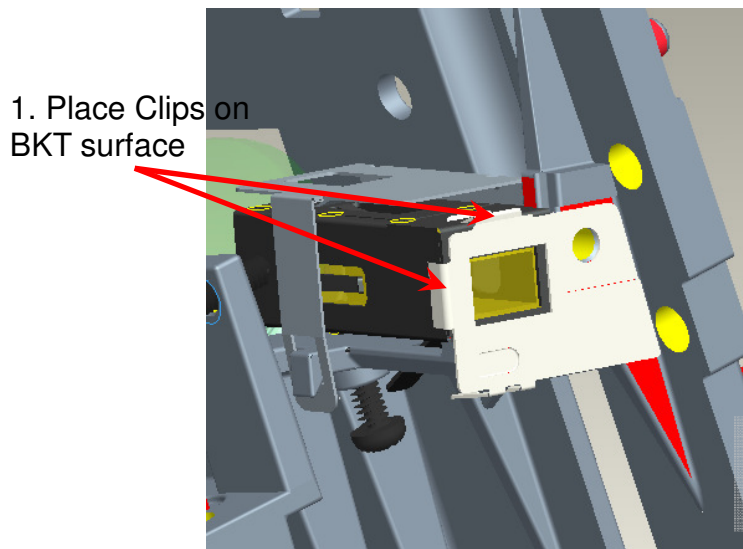
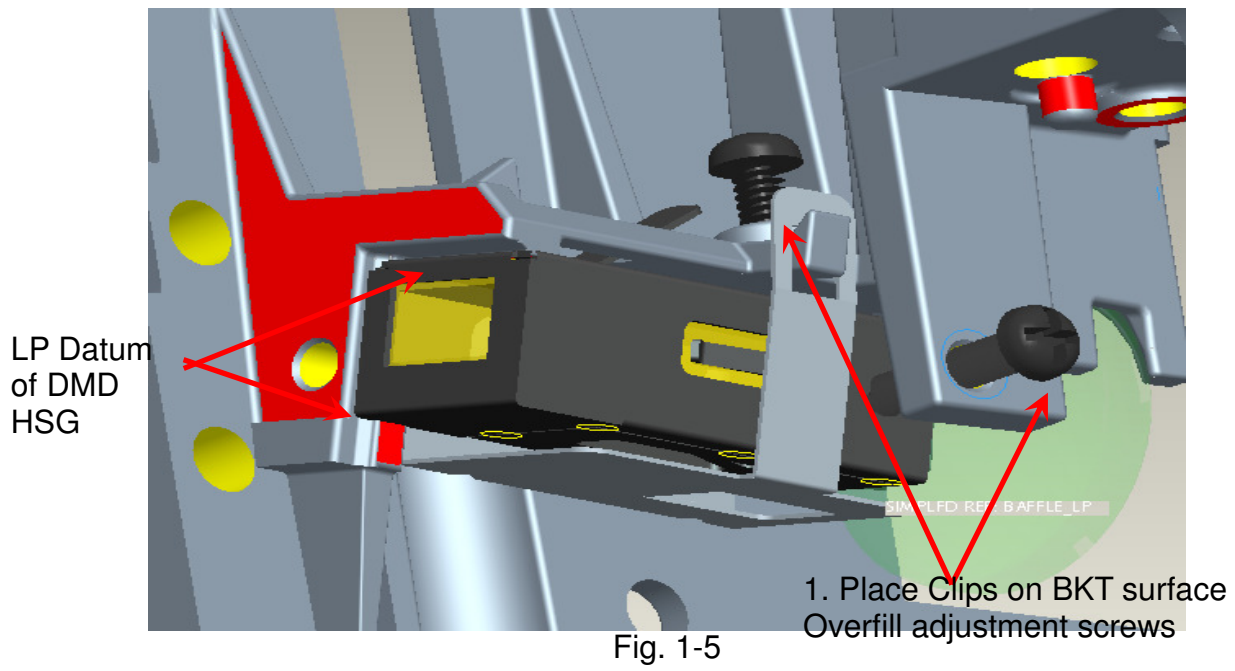


Fig. 1-4



2. Assembly FM Module:

Place FM on “HLD FM” surface(Fig. 2-1) and use “Clip FM” to fix FM(Fig. 2-2).

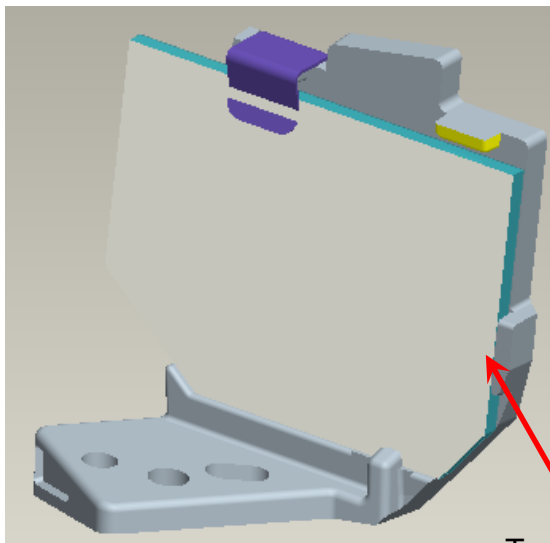


Fig. 2-1

Touch the
side surface

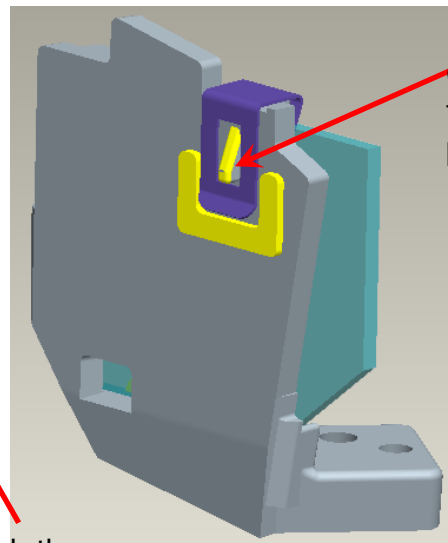


Fig. 2-2

3. Assembly HSG ILL Module:

3.1 CM Assembly

- I. Insert “Clip CM Side” first, and then place “Clip Front CM” to fixed-shaft of ILL SUB before locking screw (Fig. 3-1, Fig. 3-2).
- II. Assemble Mylar SUB HSG to HSG ILL well (Fig. 3-3).
- III. Assemble CM to HSG ILL and to make CM contact three datum on the HSG ILL Well (Fig. 3-3).
- IV. Assemble “MYLAR CM ” to the CMD firstly, “CLIP TOP CM”(with forceps) to the “HSG ILL” (Fig. 3-4,).
- V. To check and make sure “CLIP of CM” hooks the HSG ILL very Well (Fig. 3-5).
- VI. Paste “Sponge tube AL” on cannellure of” HSG ILL” (Fig. 3-6).

3.2 FM Module Assembly

- i. FM Module must be placed to fixed shaft and on the datum surface of “ILL SUB” and then lock with screw well (Fig. 3-7).

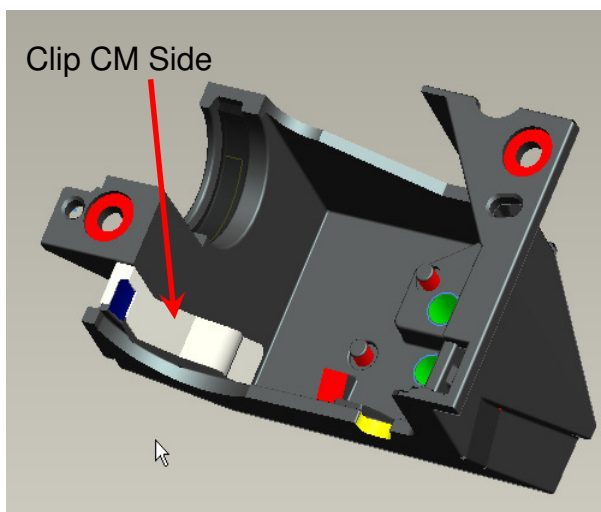


Fig. 3-1

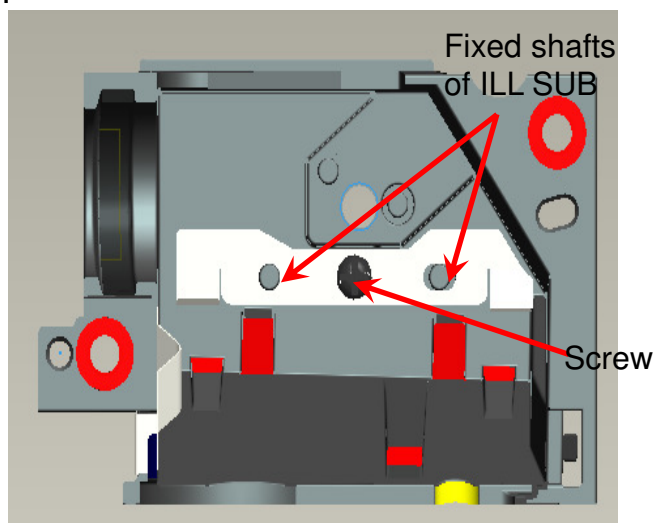


Fig. 3-2

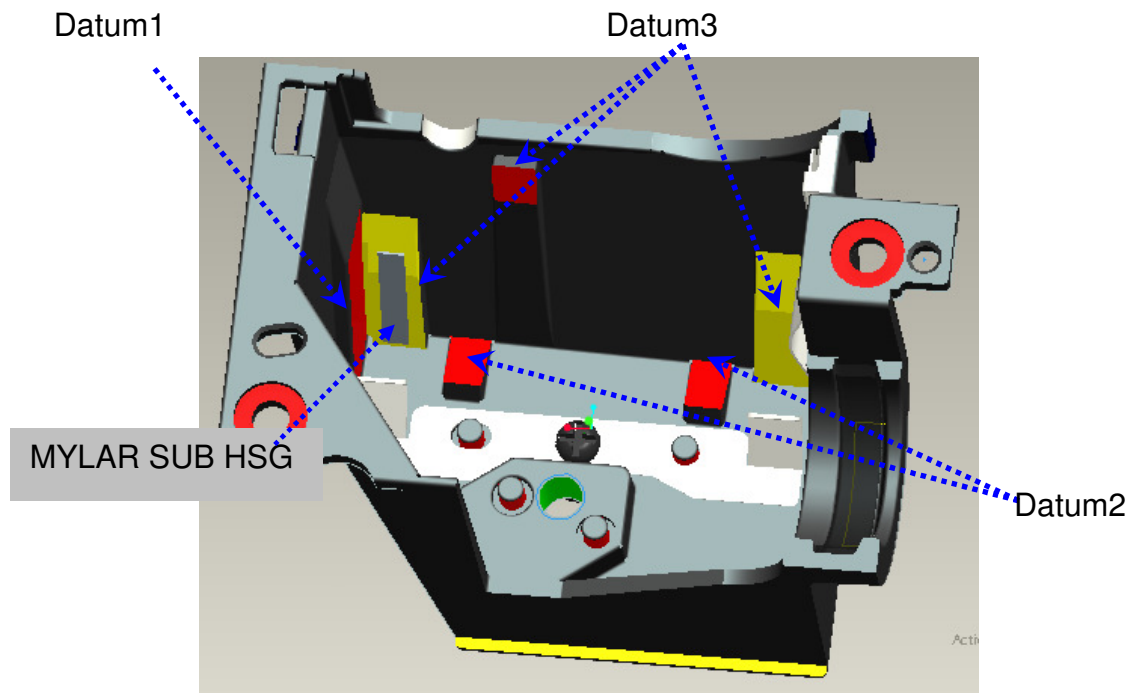


Fig. 3-3

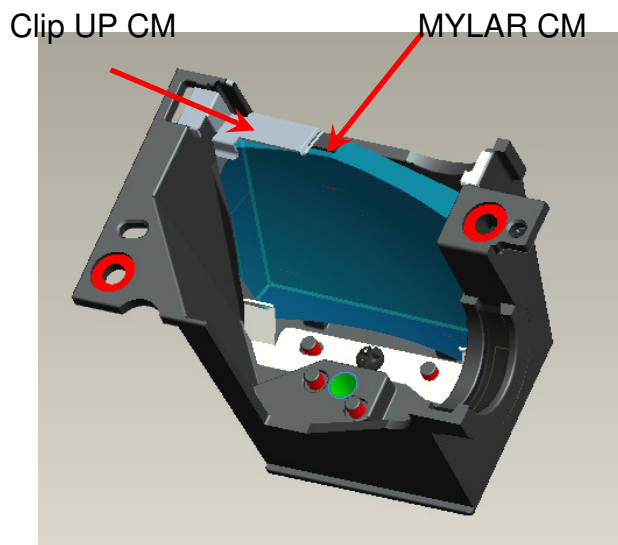


Fig. 3-4

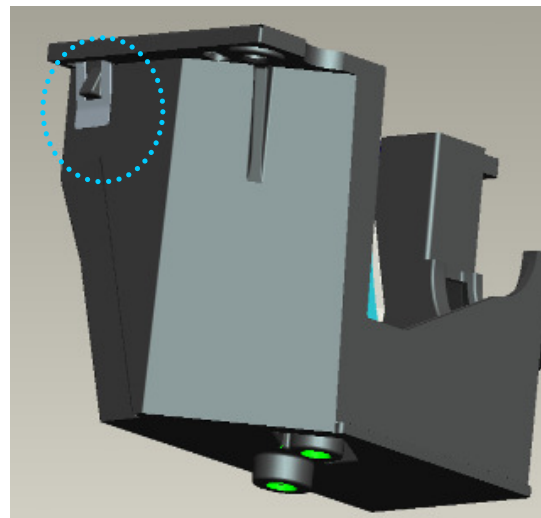


Fig. 3-5

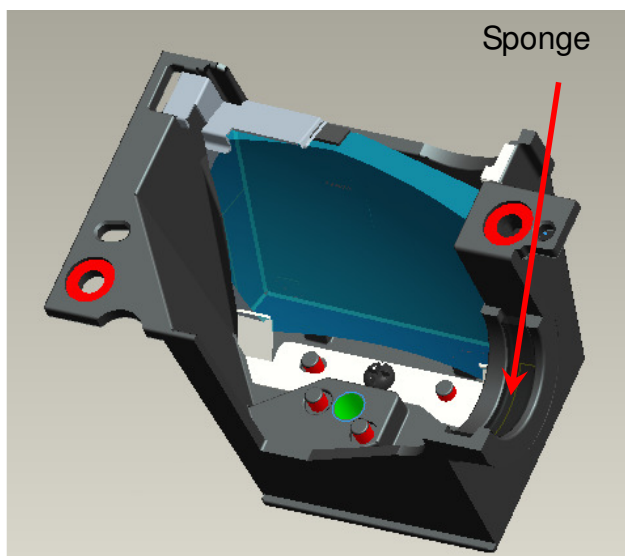


Fig. 3-6

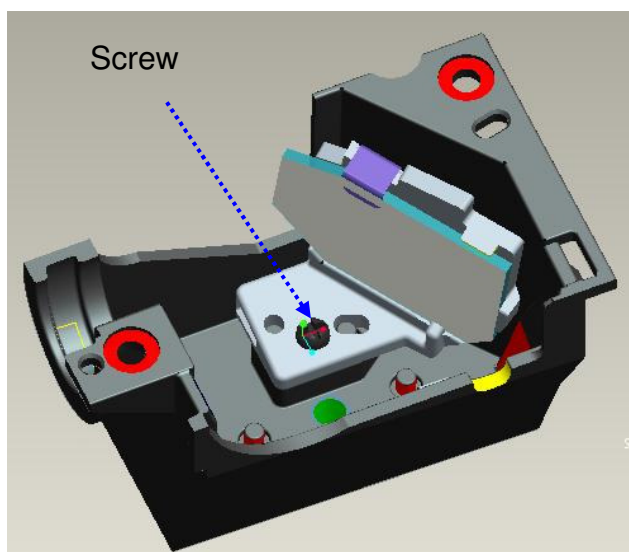


Fig. 3-7

4. AL, HSG ILL and HSG DMD Assembly:

4.1 Placed “AL” on the “HSG DMD”. The “raised surface” of “AL” shall toward “DMD direction” (Fig. 4-1).

4.2 To assemble “HSG ILL SUB Module” with “HSG DMD” and cover over on “AL” and the then lock with screws(Fig. 4-2).

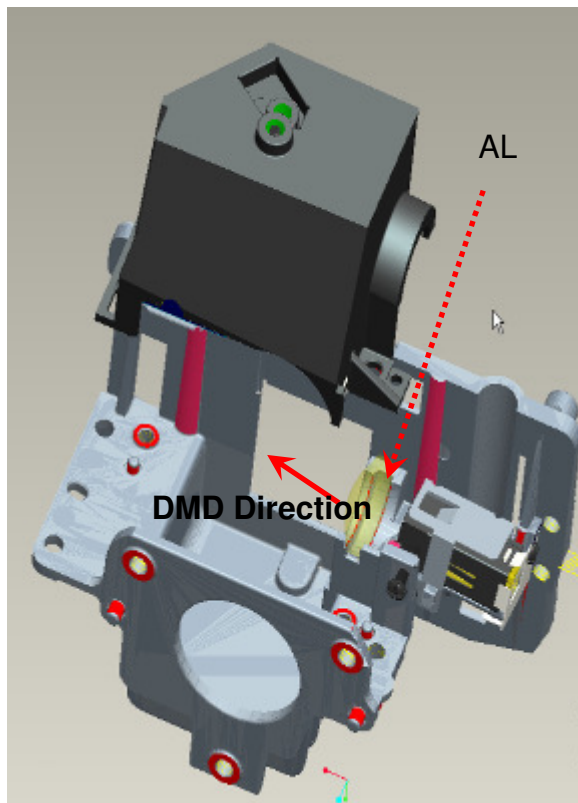


Fig. 4-1

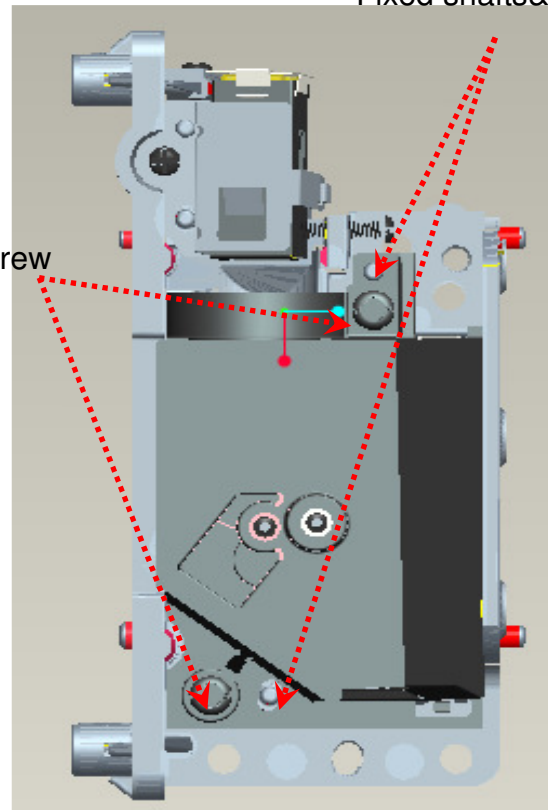


Fig. 4-2

5. DMD and Chip B/D Module:

5.1. Judge Chip B/D and DMD alignment keying first (Fig. 5-1, 5-2).

5.2. Alight keying and Assemble DMD to Chip B/D (Fig. 5-3).

5.3. Push DMD slightly and use screwdriver rotate clockwise button to lock (close notation) DMD on Chip B/D (Fig. 5-4).

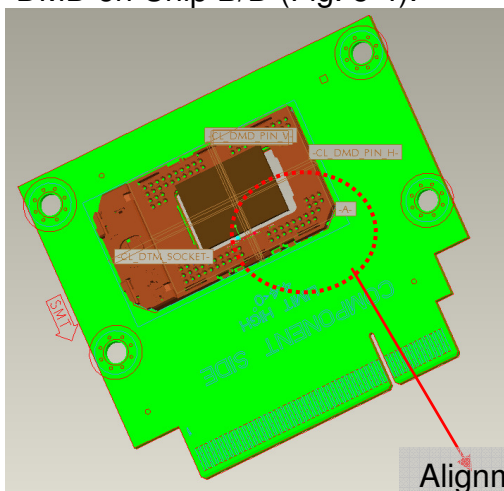


Fig. 5-1

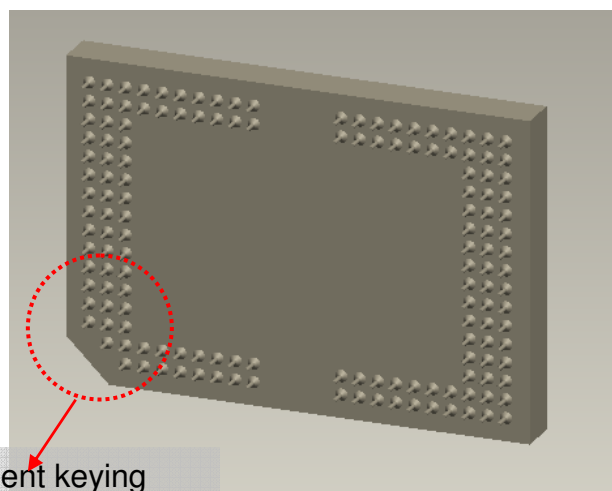


Fig. 5-2

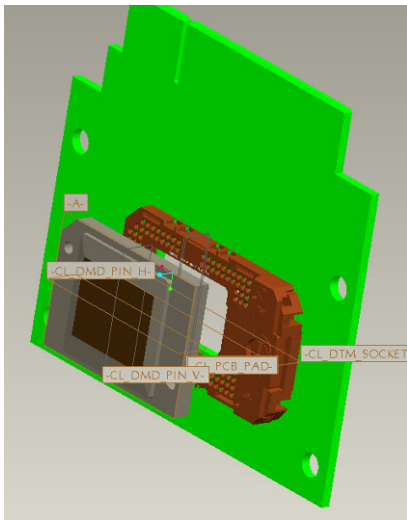


Fig. 5-3

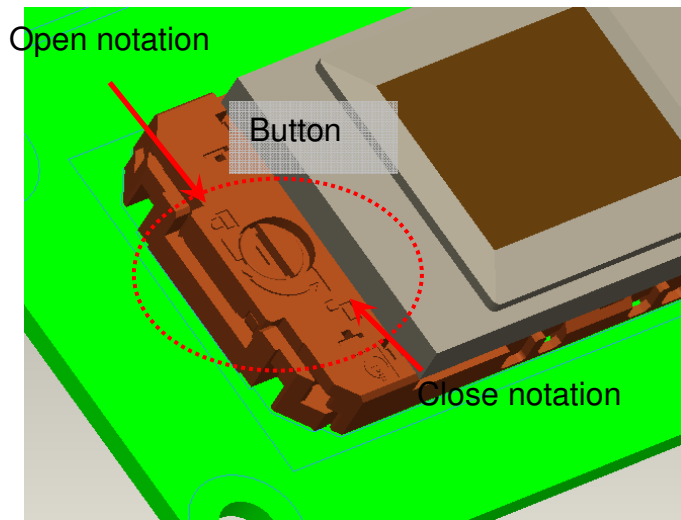


Fig. 5-4

5.4 Place Damper on the surface of Chip-BD Fig. 5-5.

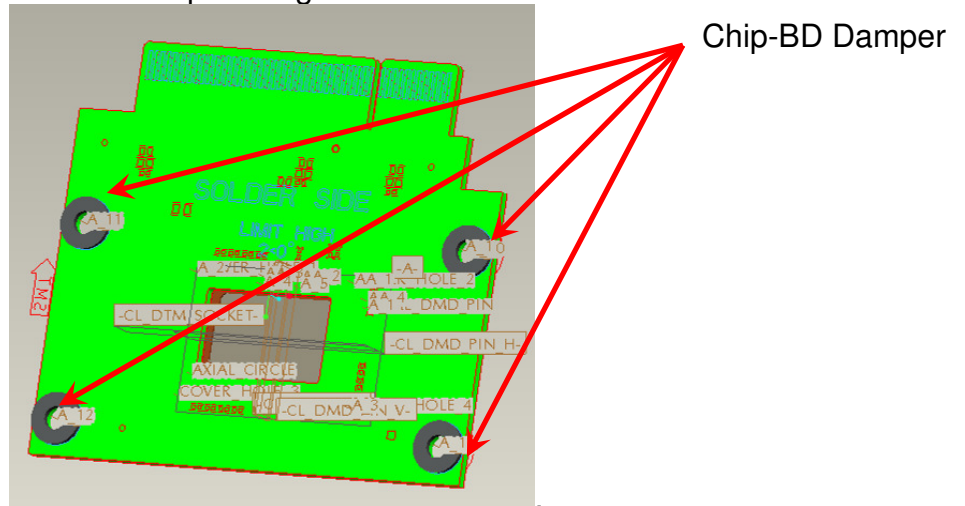


Fig. 5-5.

6. Assembly Optical Engine:

6.1 Assemble "CW Module" to "DMD HSG" and lock with screws well (Fig.6-1).

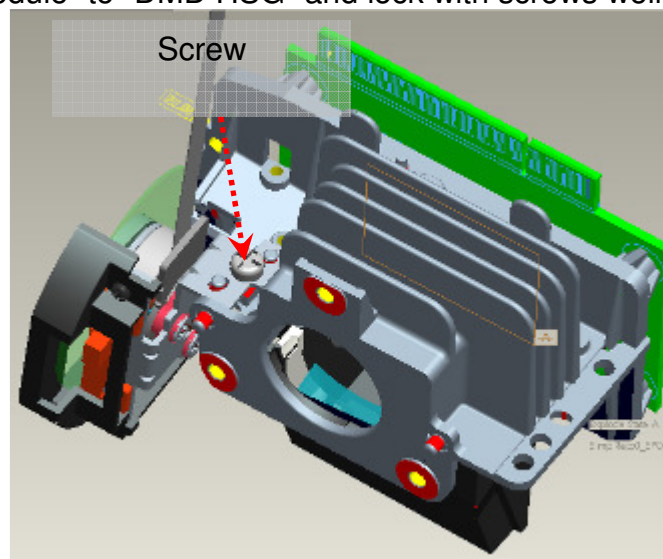


Fig.6-1

6.2 **(Only for S5201B)** : Paste the sponge on Mylar CW, for touching lower case (Fig. 6-1-1)

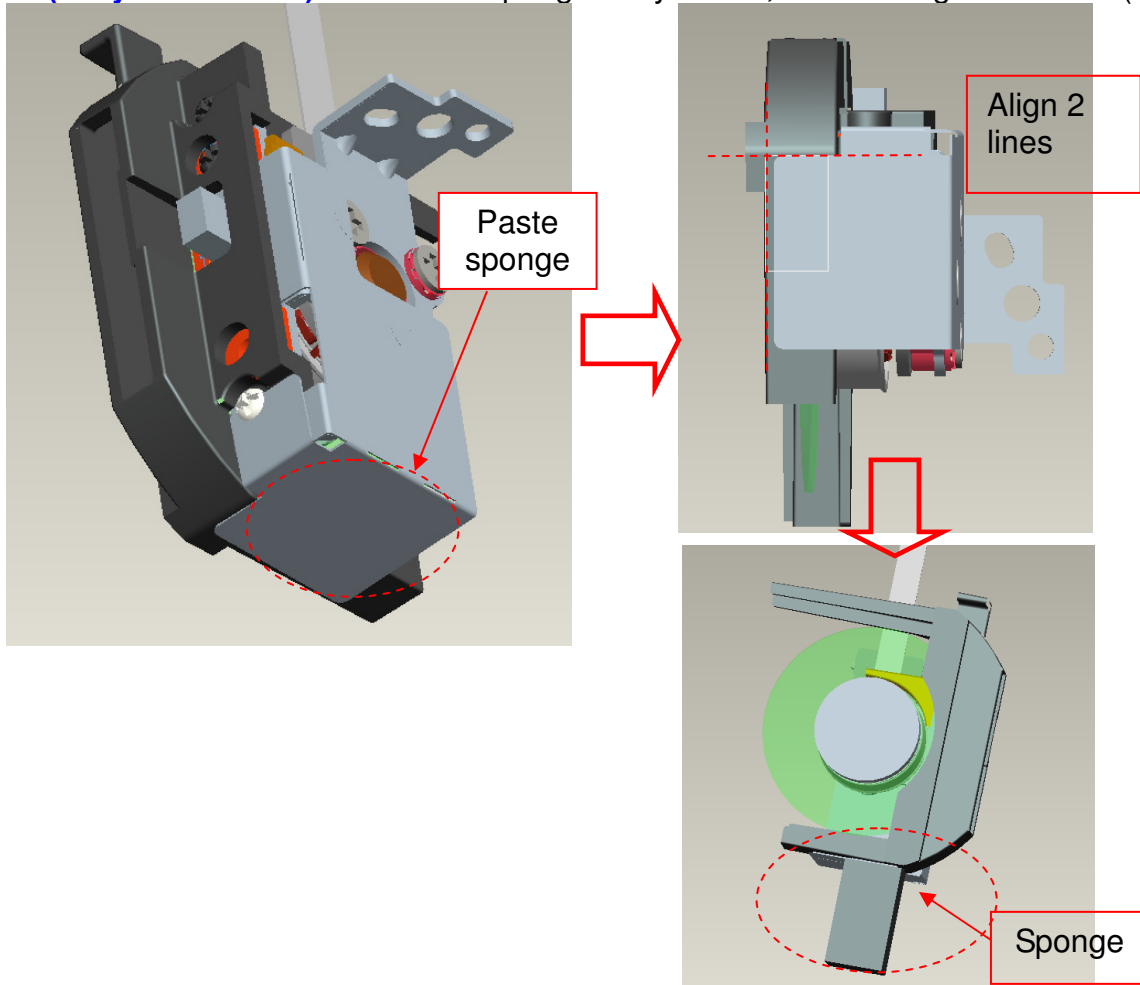


Fig. 6-1-1

6.3 Assemble “BKT LINK Lamp” to “DMD HSG” and lock with screws well(Fig. 6-2).

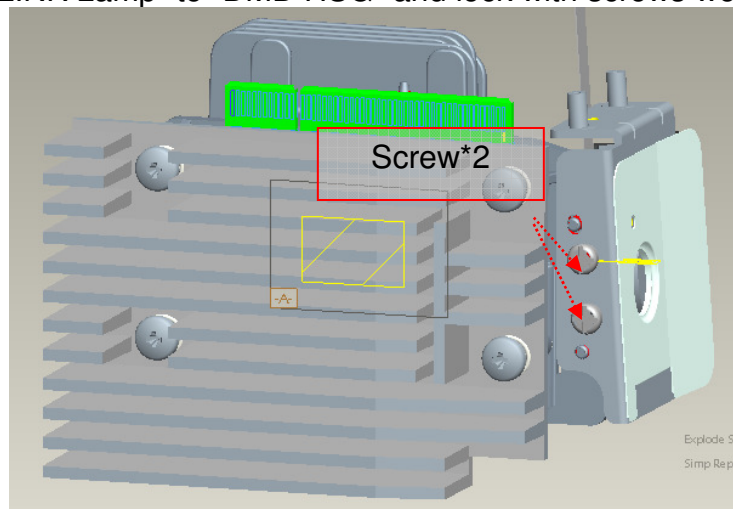


Fig. 6-2

7. Assembly OP ENG

7.1 Assemble “Baffle DMD” to “HSG DMD” (Fig.7-1).

7.2 Assemble “Sponge DMD” to “HSG DMD” (Fig.7-1).

7.3 Assemble Chip B/D Module to “HSG DMD” (Fig. 7-2, 7-3).

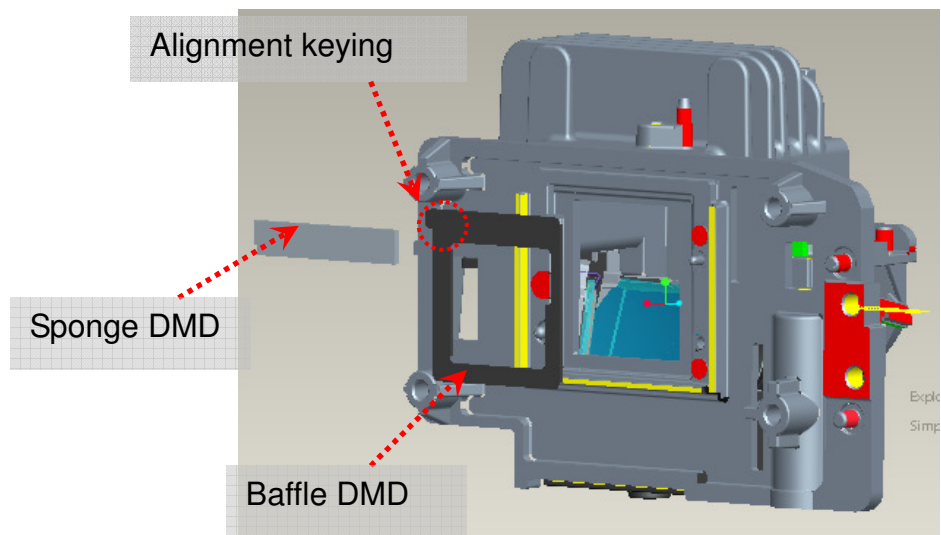


Fig.7-1

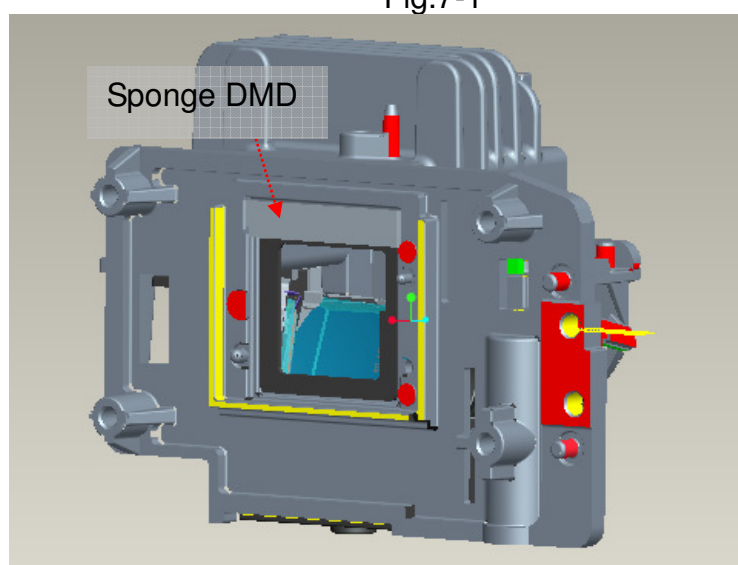


Fig.7-2

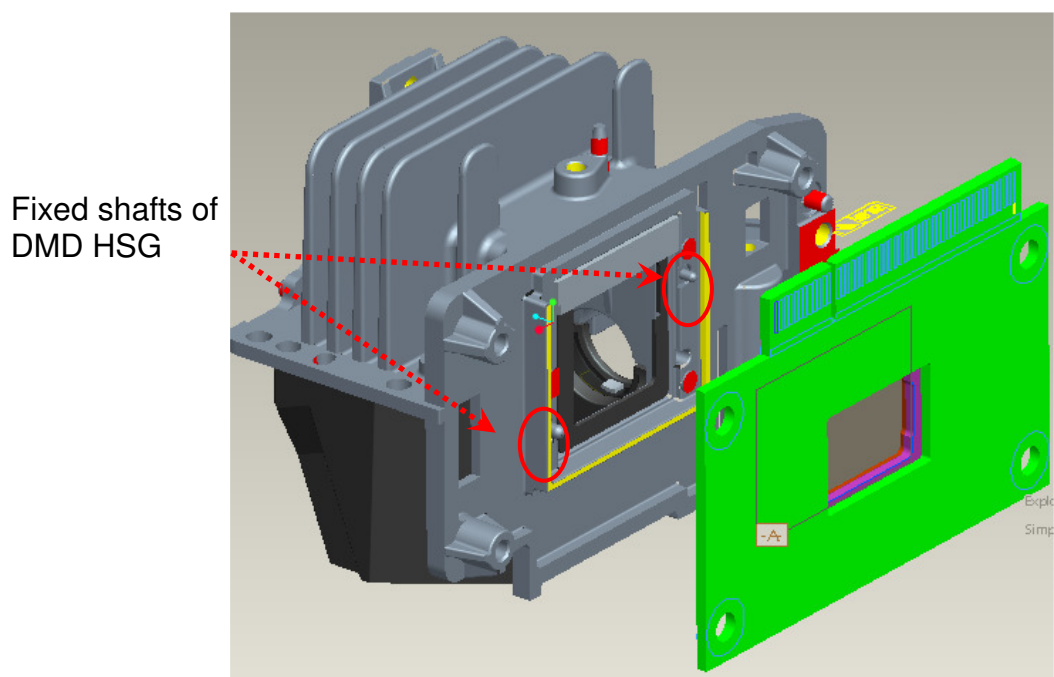


Fig.7-3

7.4 Assemble Thermal Pad & Gasket Hest-sink then place contact DMD (Fig. 7-4, 7-5).

- i. Press center of Heatsink before assemble spring screws, and then keeps press until spring screw assembly finish.
- i. Pre-fastening Sequence: [1] - [2] - [3] - [4].
- ii. Fastening Sequence: [2] - [1] - [4] - [3].
- iii. Screw Torque must be confirmed to be 6 kg-cm.

Press center of Heatsink when assemble spring screw

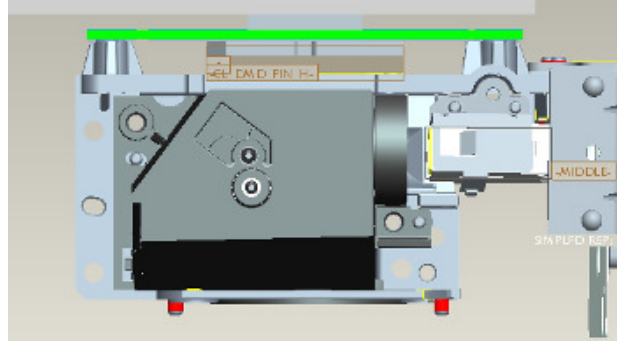


Fig. 7-4

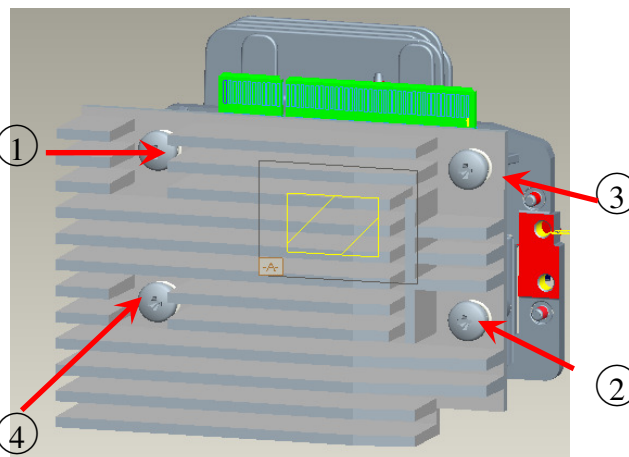


Fig.7-5

7.5 Assemble "Lens Frame" and lock with screws well (Fig. 7-6).

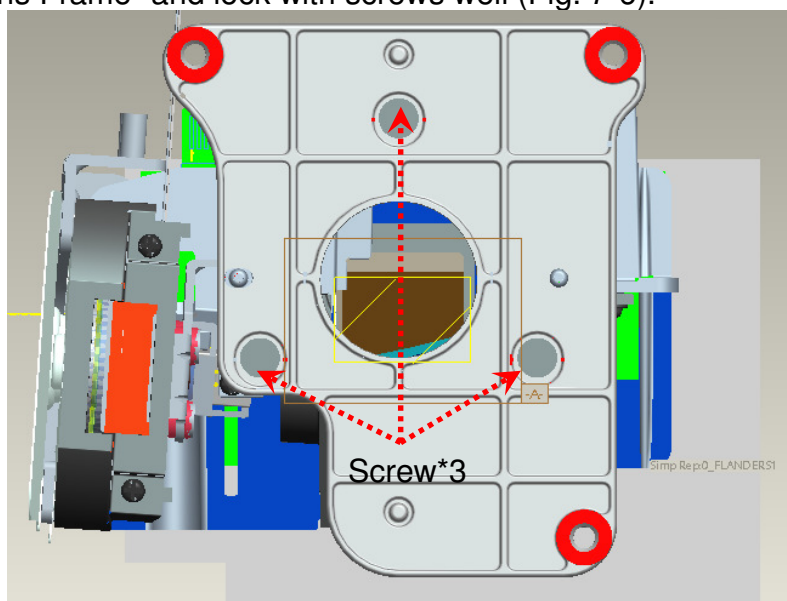
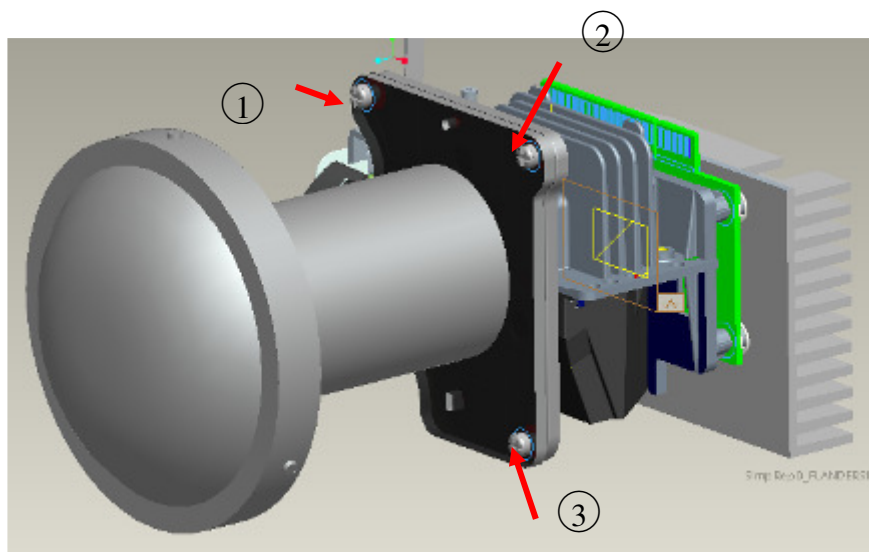


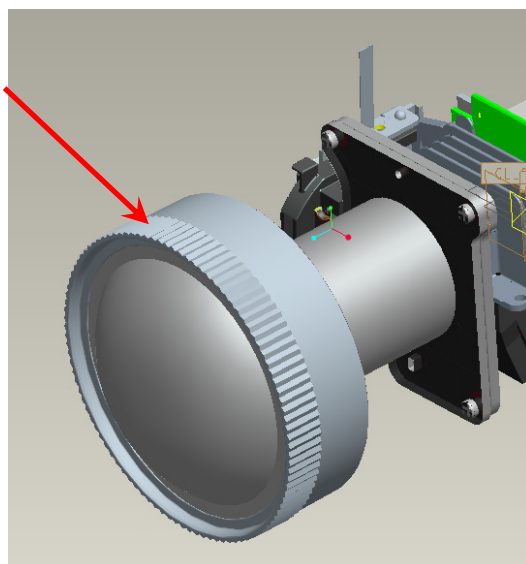
Fig. 7-6

7.6 Pre-assemble Lens and Pre-Lock with screws. Sequence [1]-[2]-[3]



7.7 Assemble "Ring Focus"

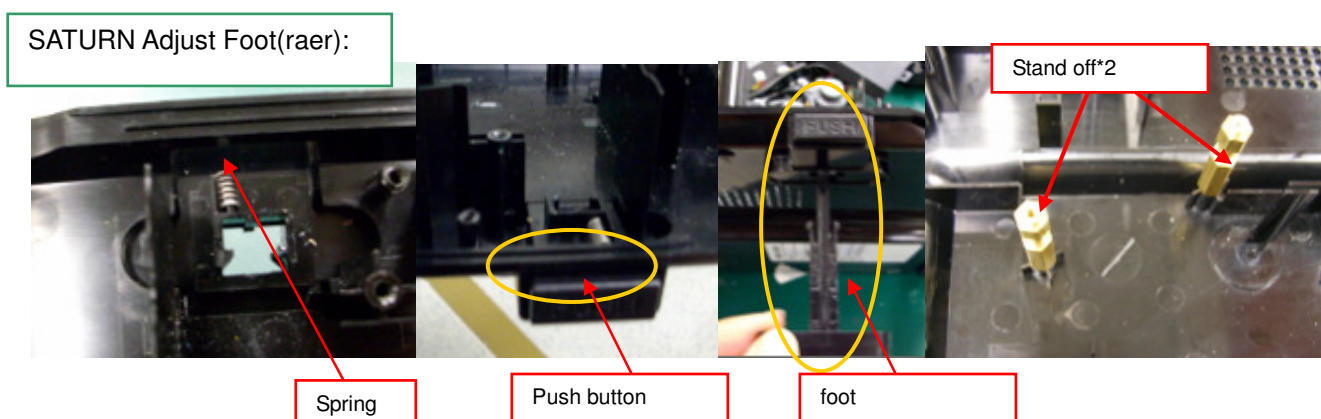
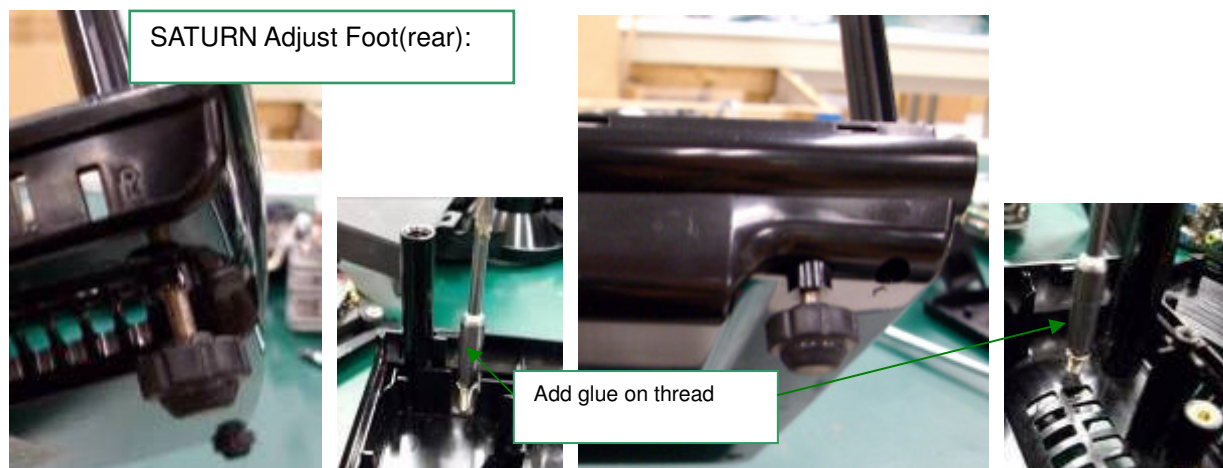
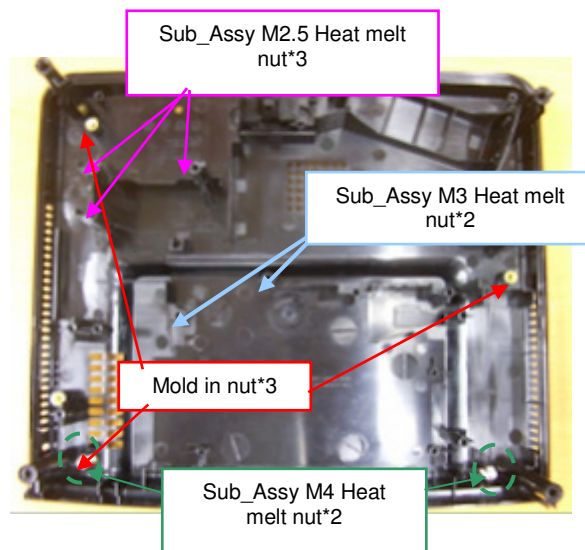
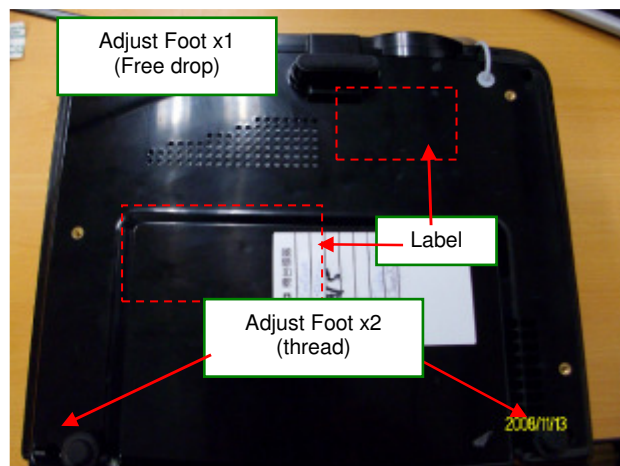
Ring Focus

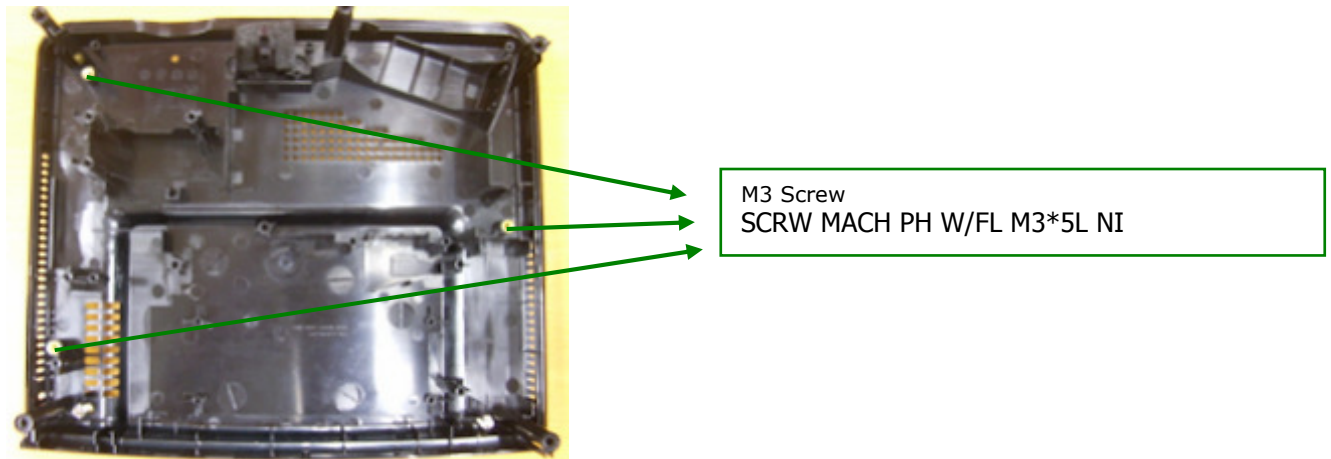
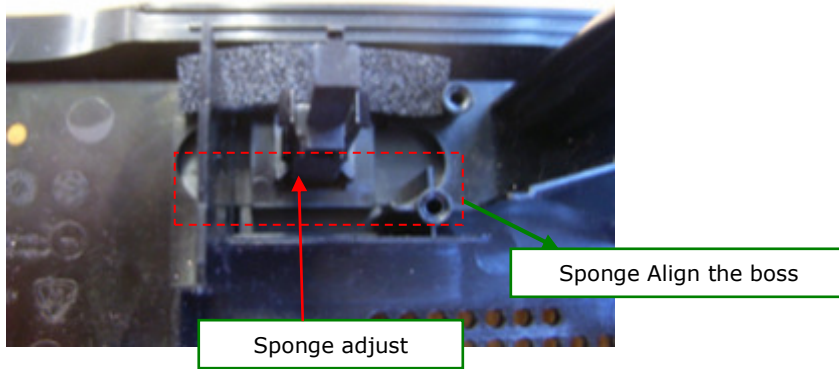


Module Assembly Key Point – Mechanical

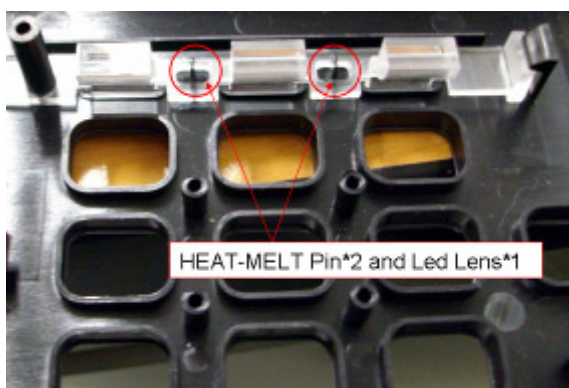
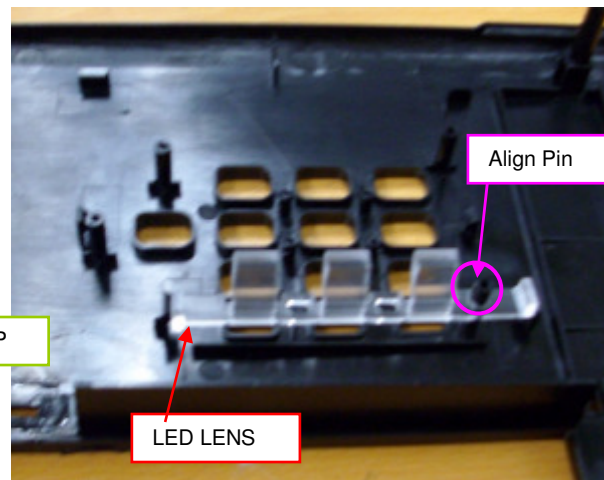
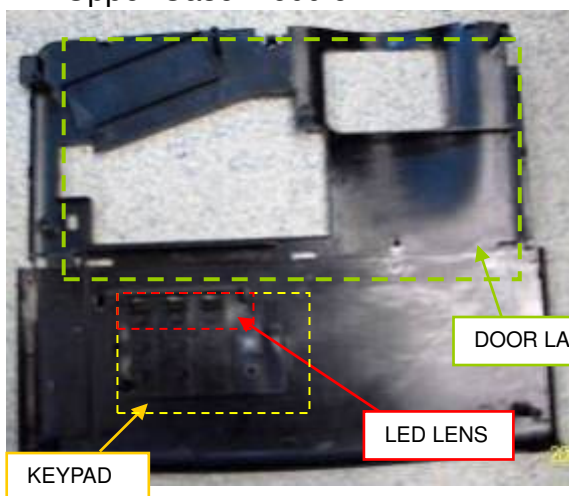
1. Appearance Case assembly concern

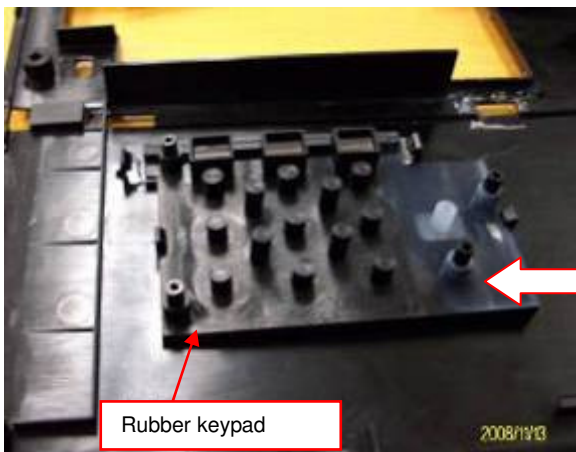
1.1 Lower Case module





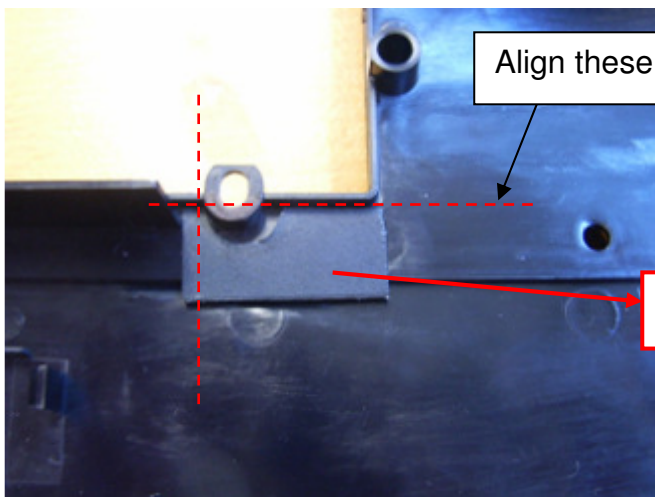
1.2 Upper Case module



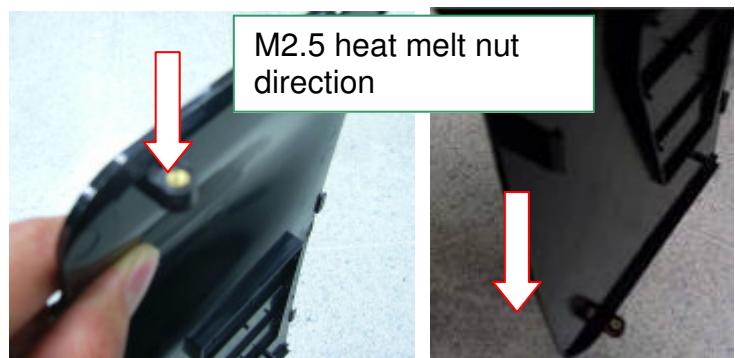


Please make sure:

1. Press all rubber close to upper case.
2. After assembled please check rubber surface even.

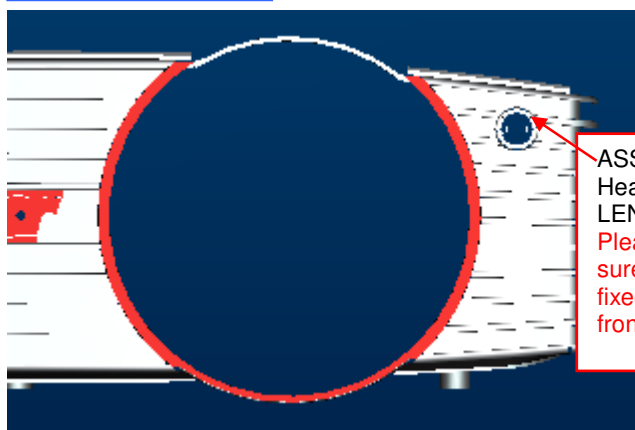


1.3 Lamp door module

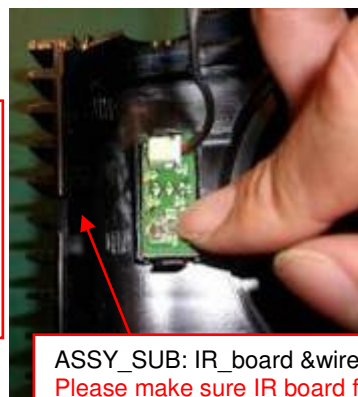


1.4 Front Case and Rear Case module

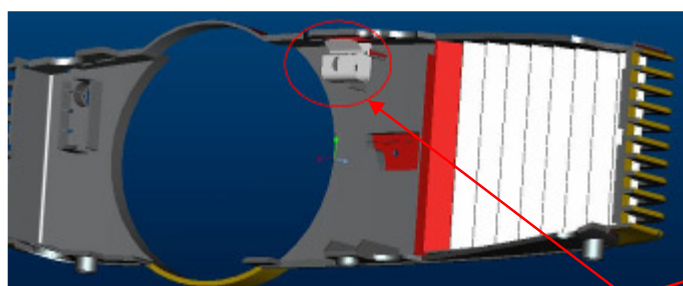
Front Case



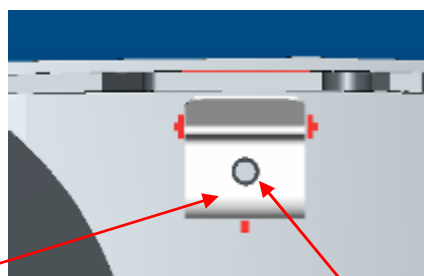
ASSY_SUB:
Heat Melt IR
LENS
Please make
sure IR lens
fixed close to
front case.



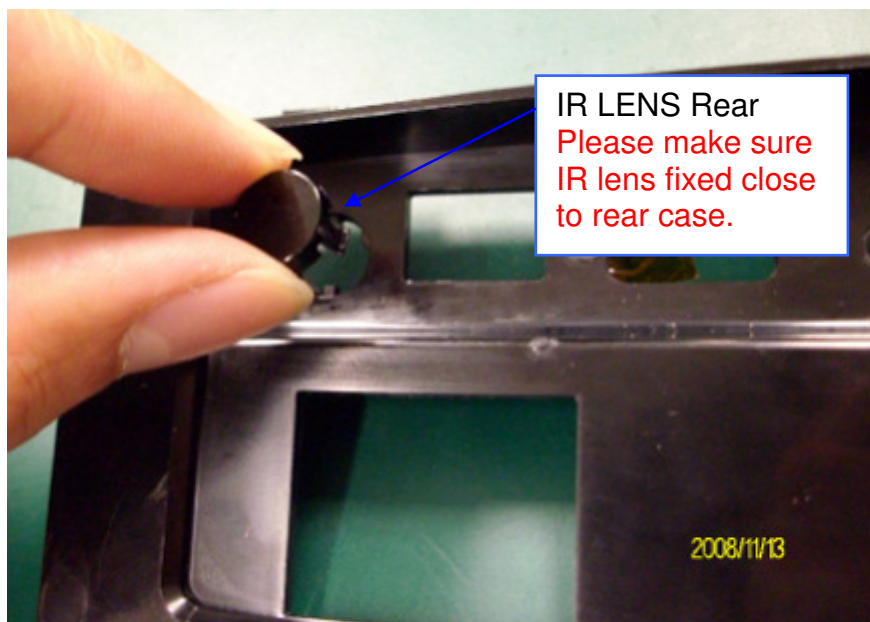
ASSY_SUB: IR_board & wire
Please make sure IR board fixed
close to front case.



hook



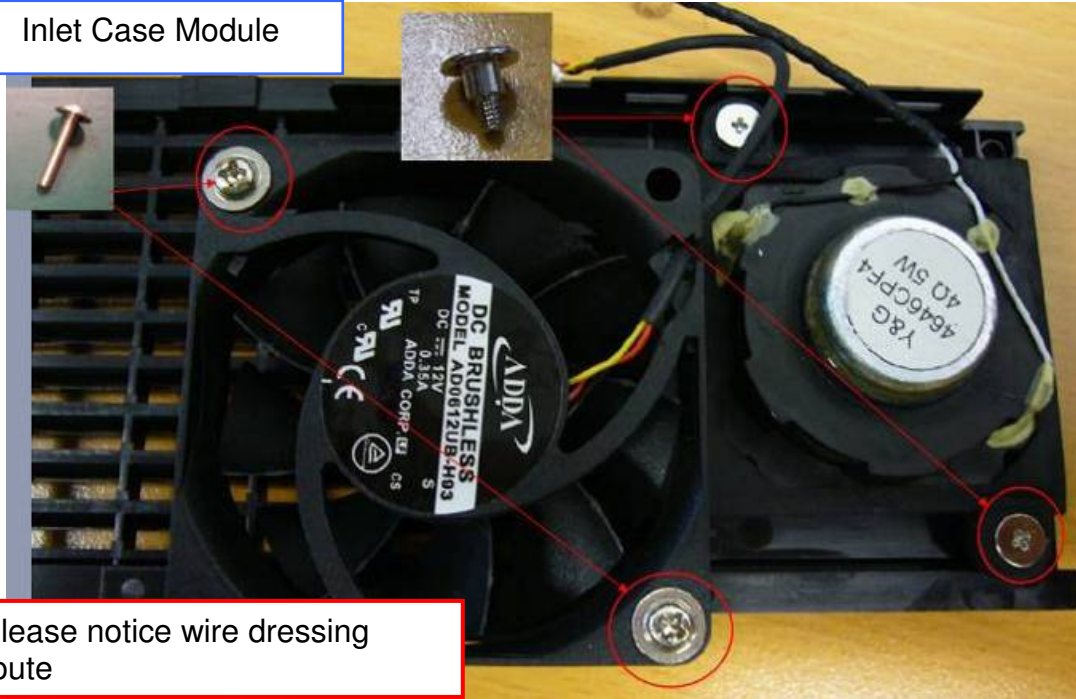
use M3 screw to fix it
on FC



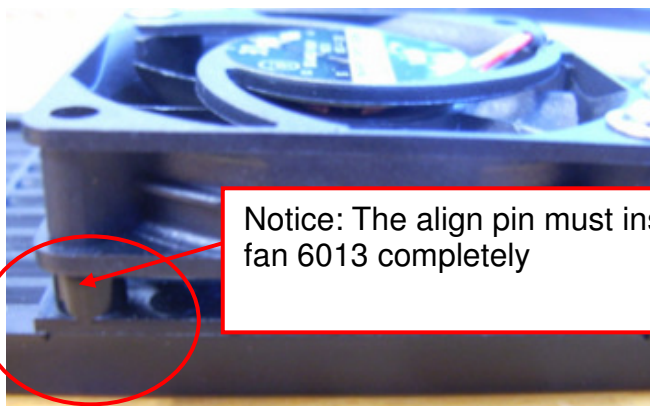
IR LENS Rear
Please make sure
IR lens fixed close
to rear case.

1.5 Inlet Case and Outlet Case module

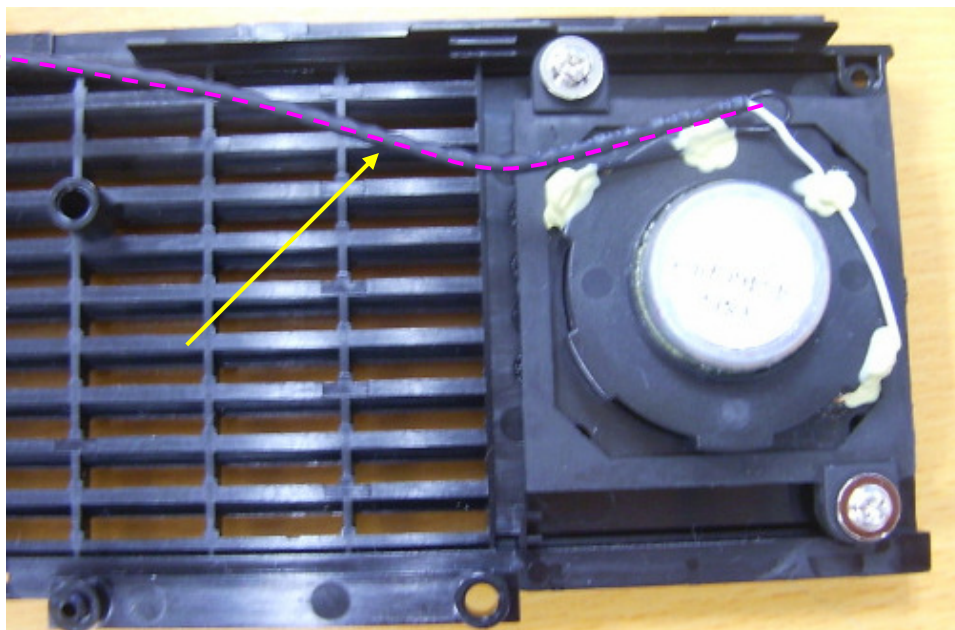
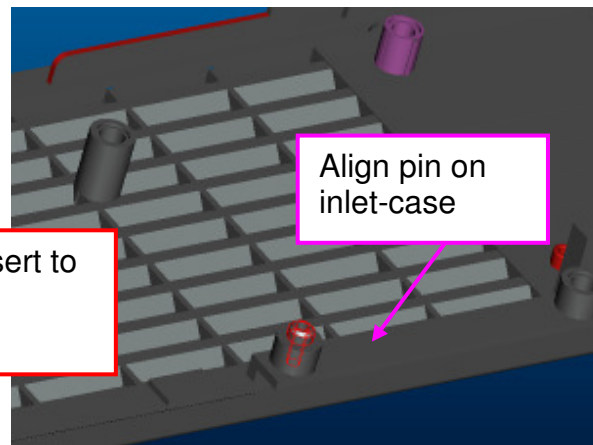
Inlet Case Module

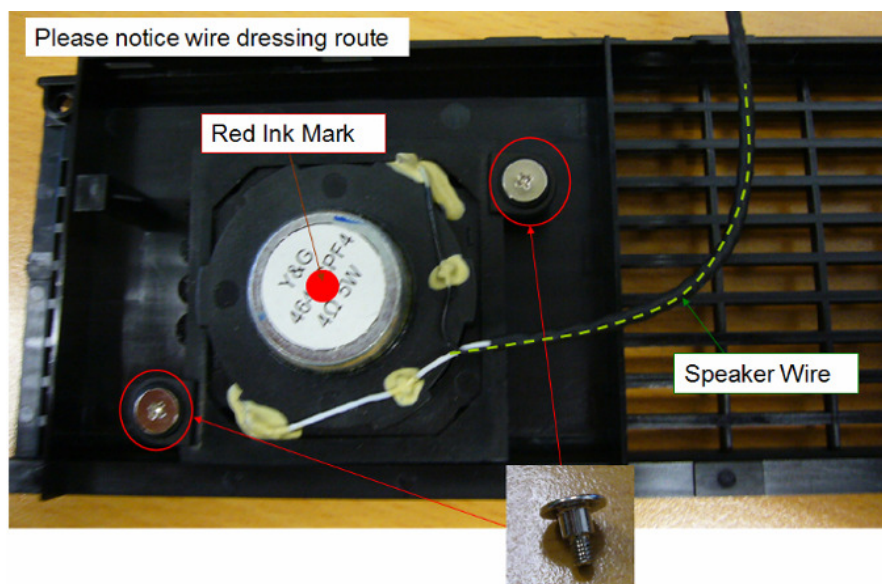
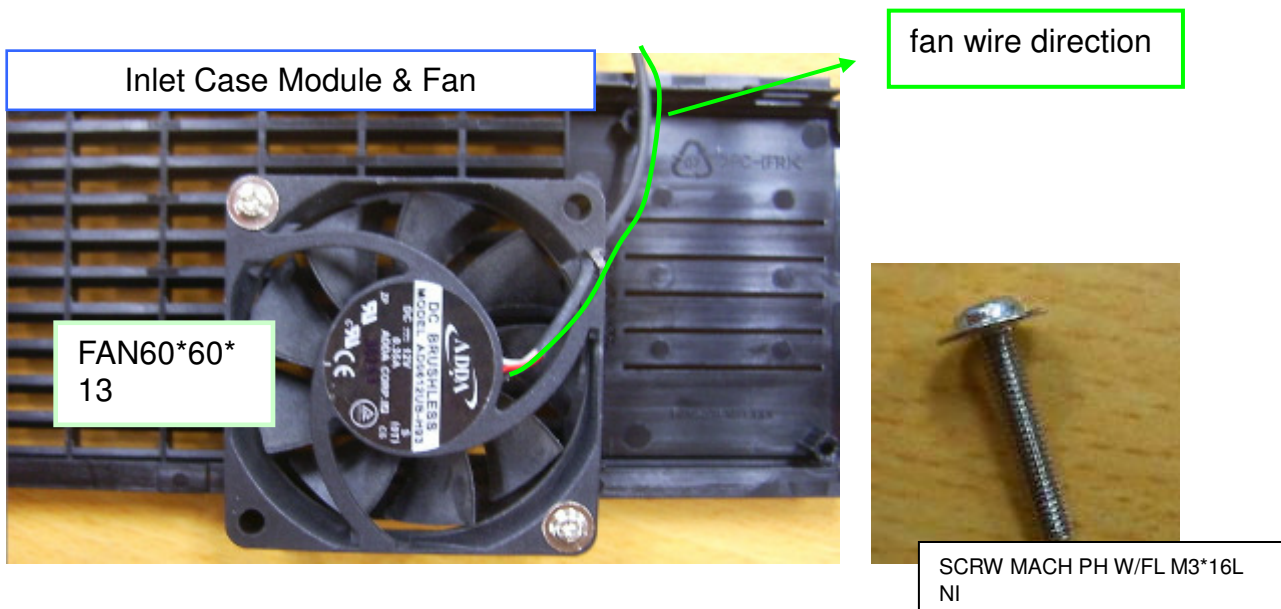


Please notice wire dressing route

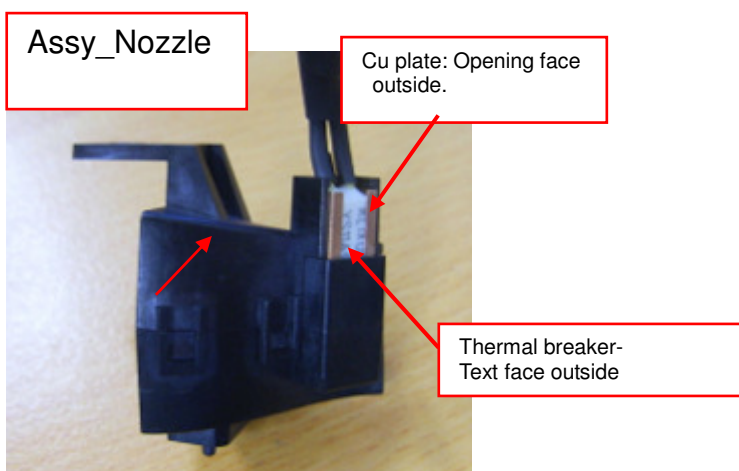


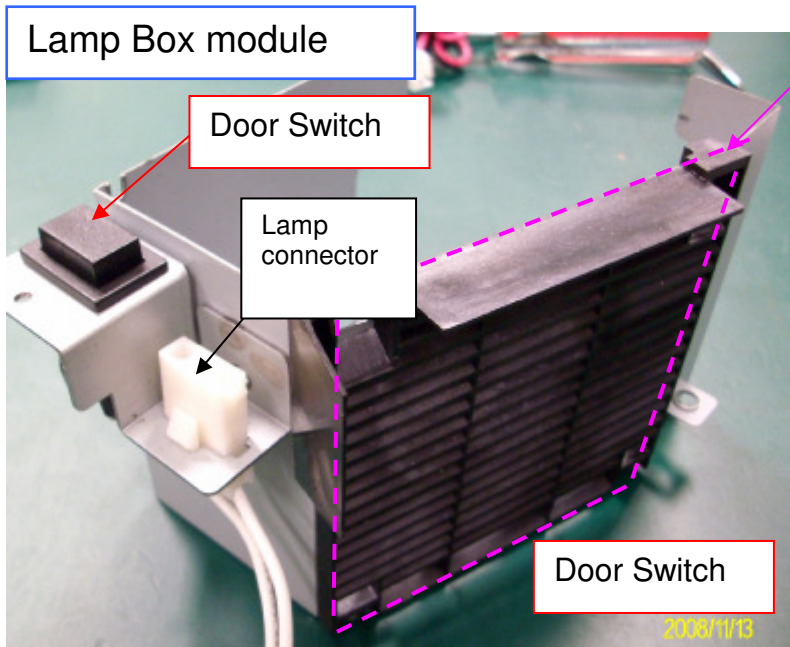
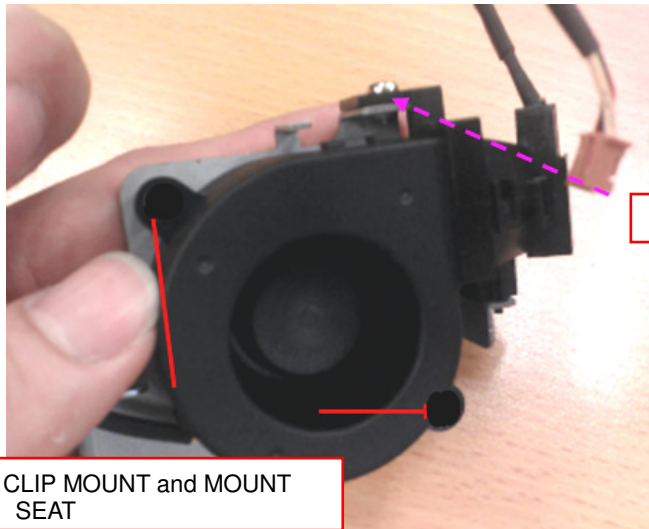
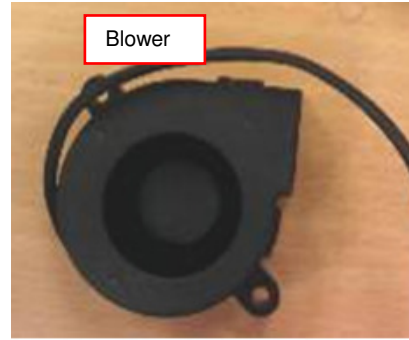
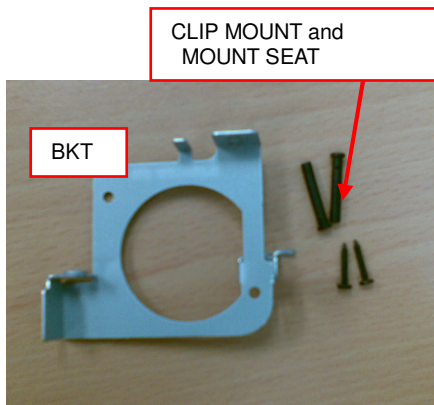
Notice: The align pin must insert to fan 6013 completely



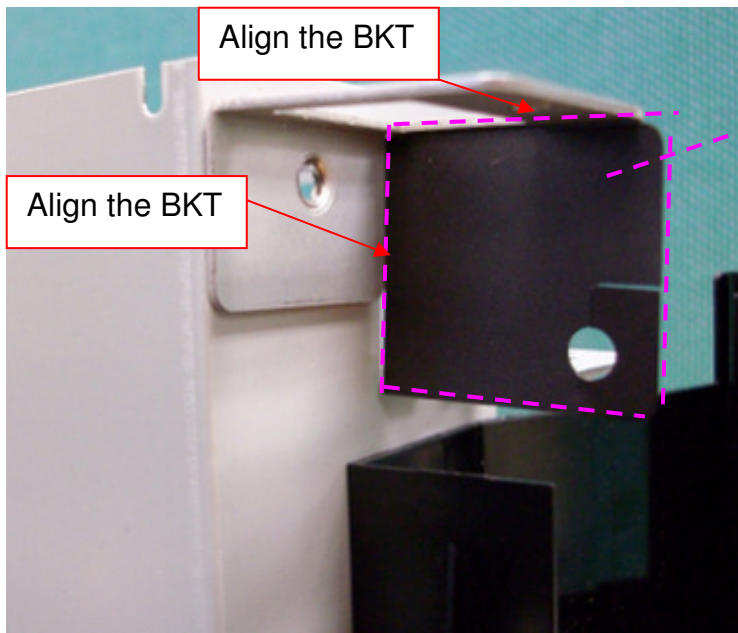


2. Lamp Box & Blower, Power Board assembly concern

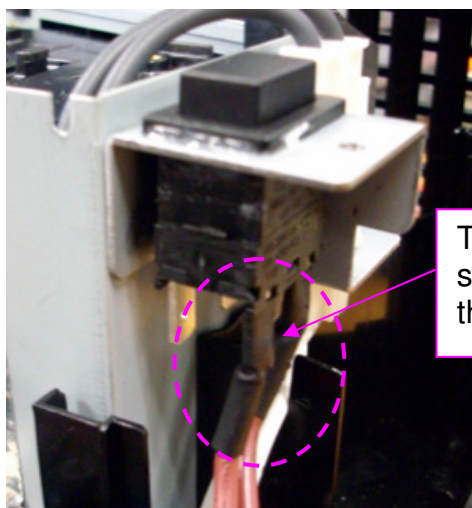
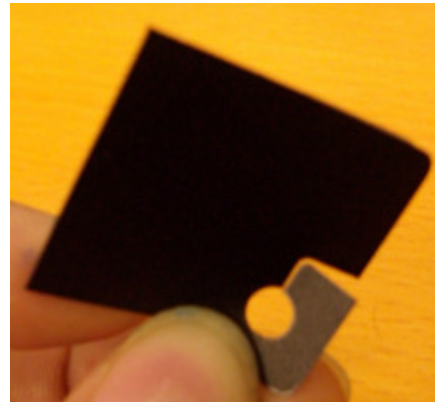




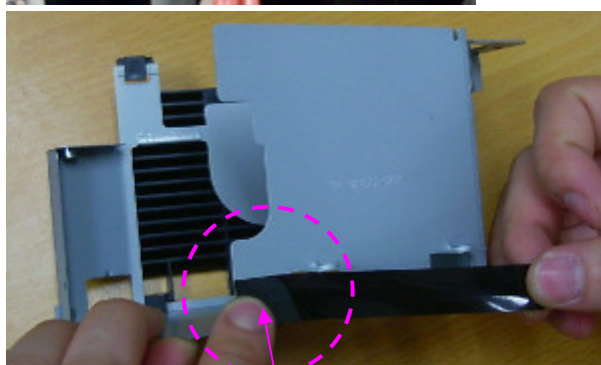
Louver Lamp Box
Please press to
bottom and check
hook position.



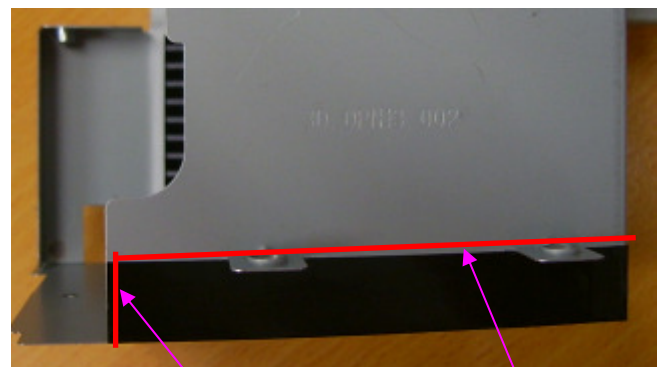
Mylar on
BKT lamp
box



The two pin with heat
shrinkage tube away from
the lamp box



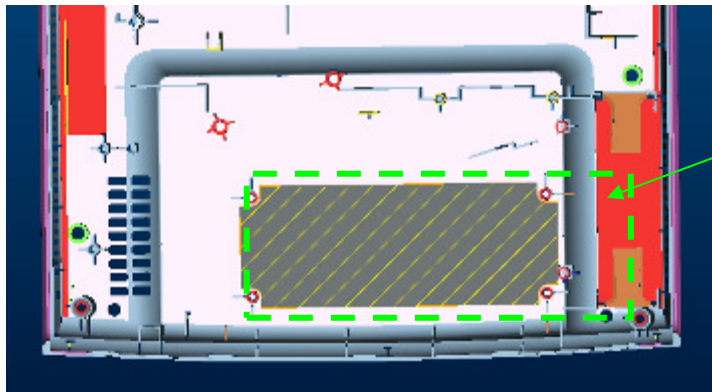
attach tape on lampbox



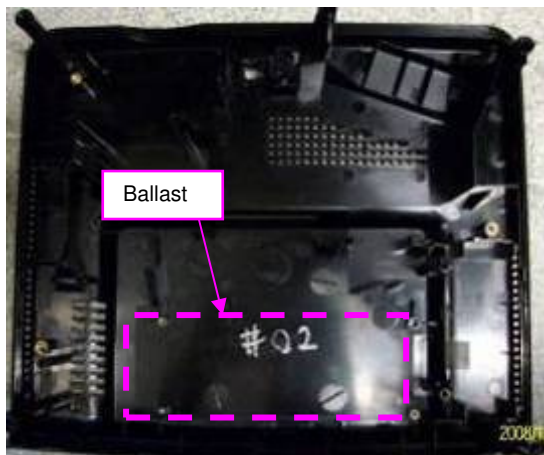
align the edge first

then align the edge
second

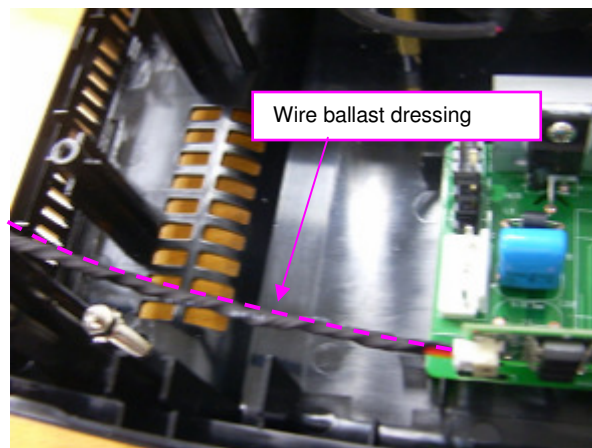
3. Ballast wire alignment concern



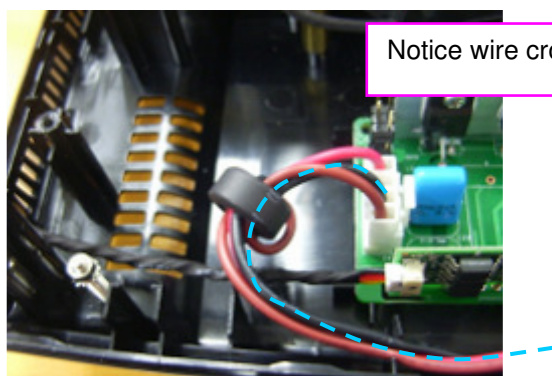
Ballast Mylar EMI



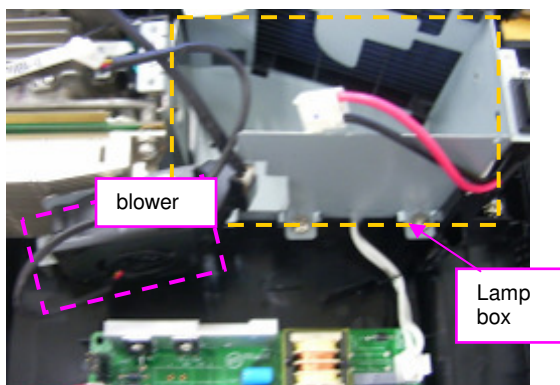
Ballast



Wire ballast dressing

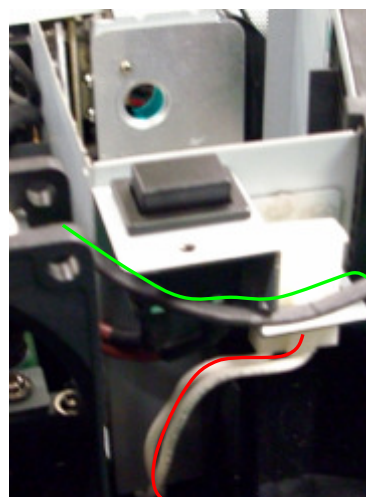


Notice wire cross dressing

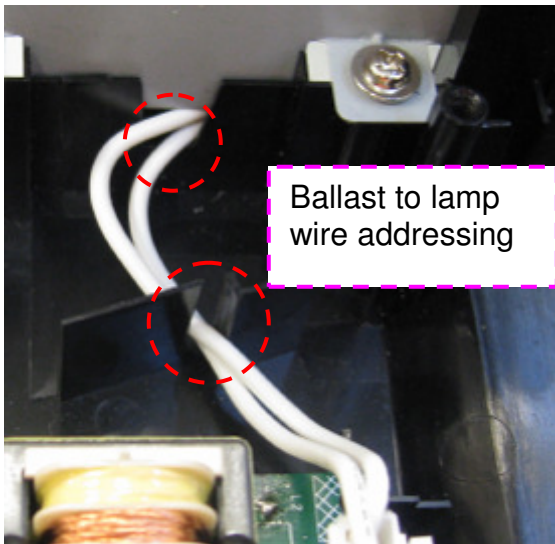


blower

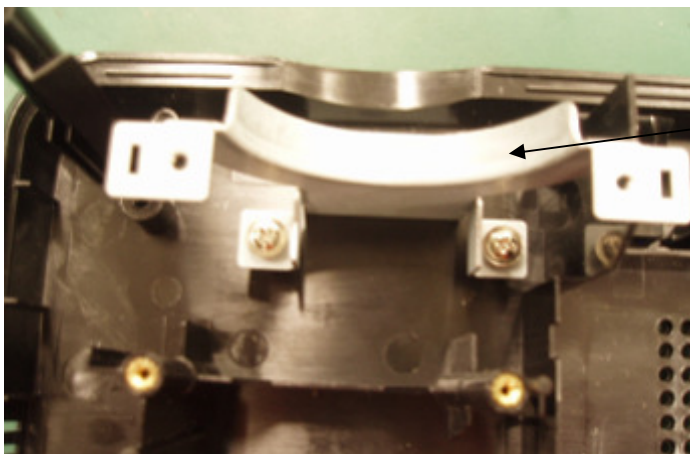
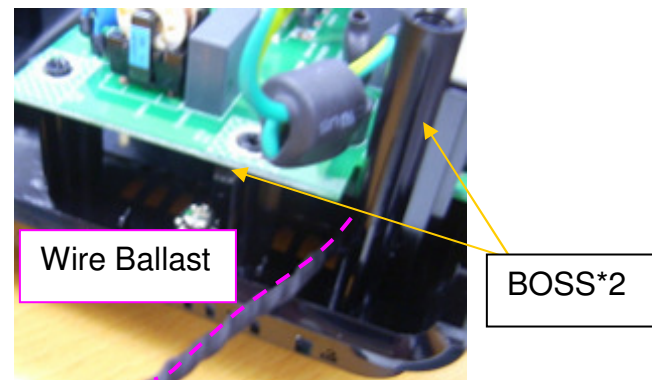
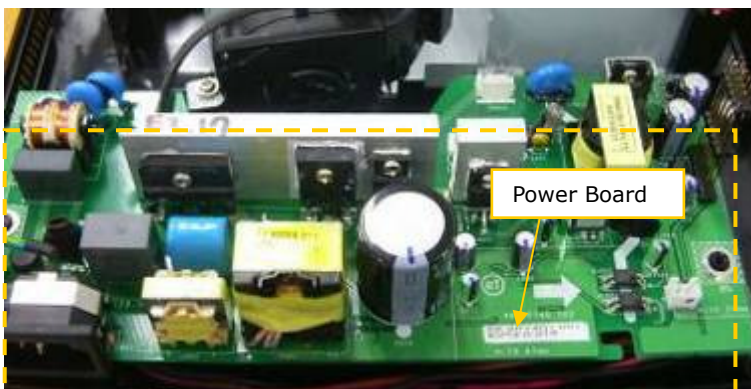
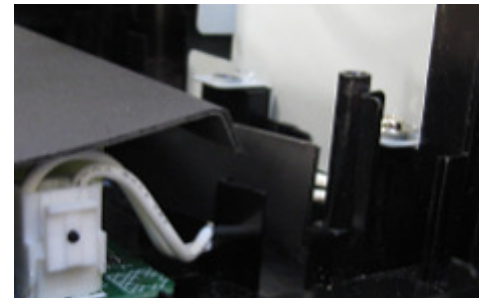
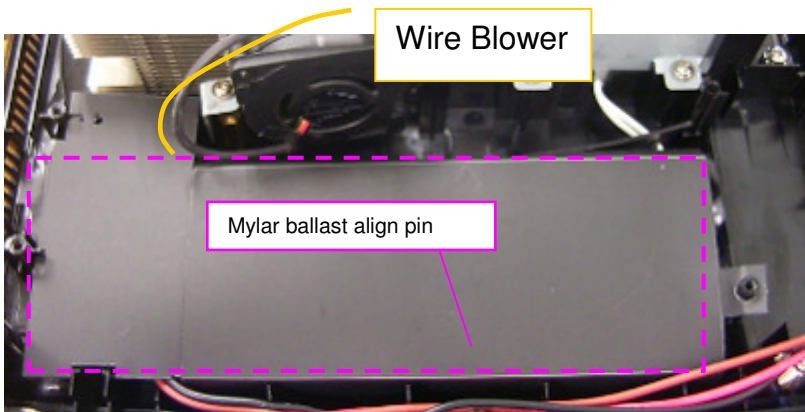
Lamp box

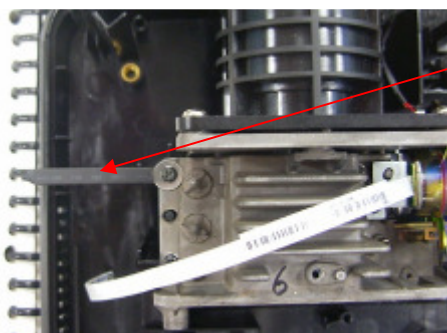
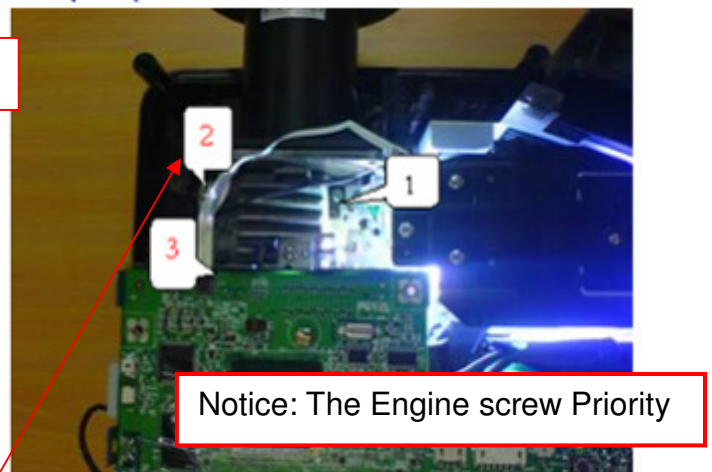
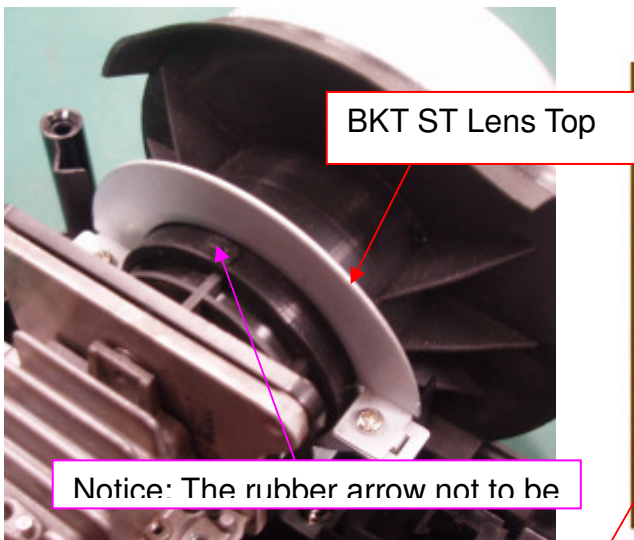
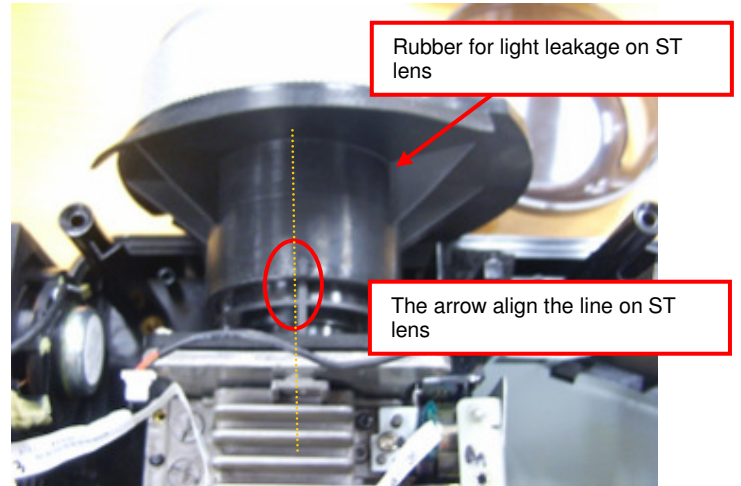
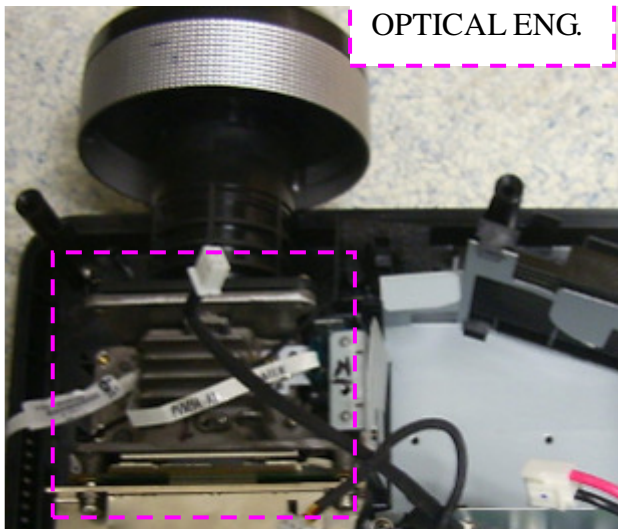


Wire under the lamp box

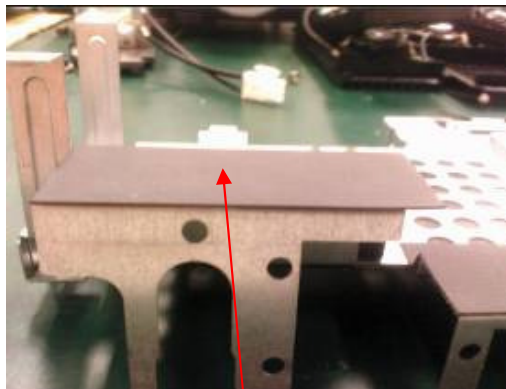
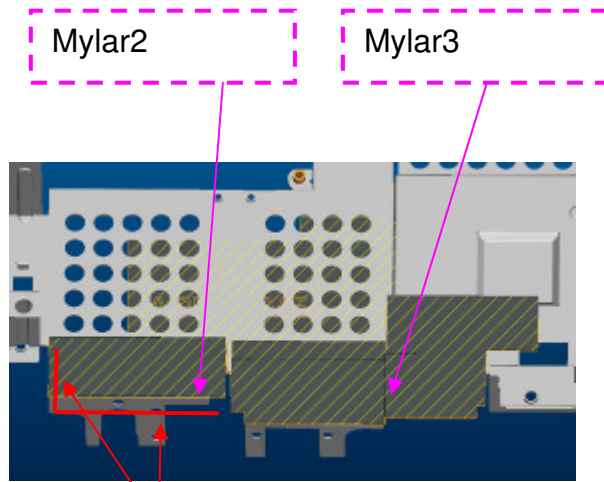
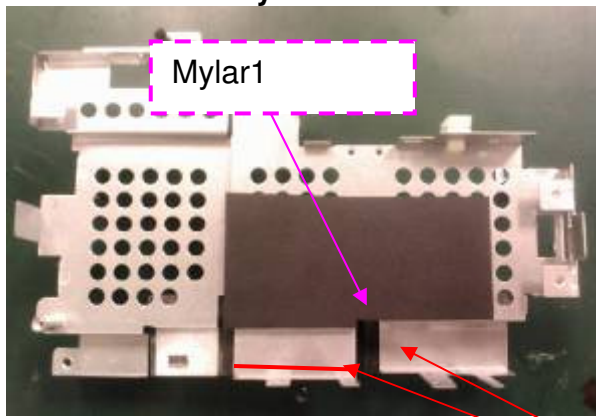


4. Power Board and Main Board wire alignment

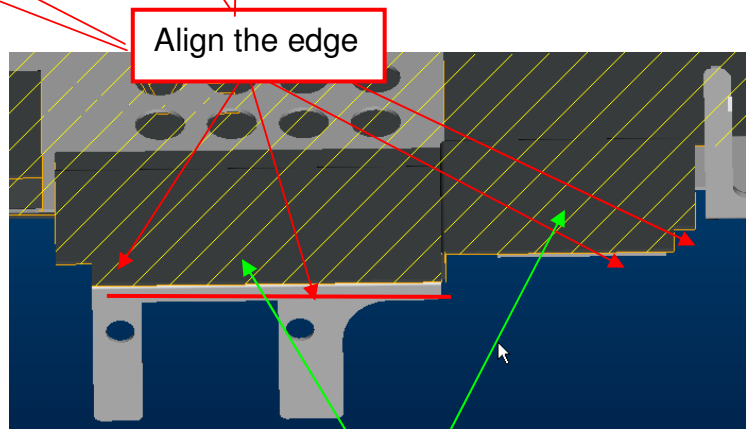




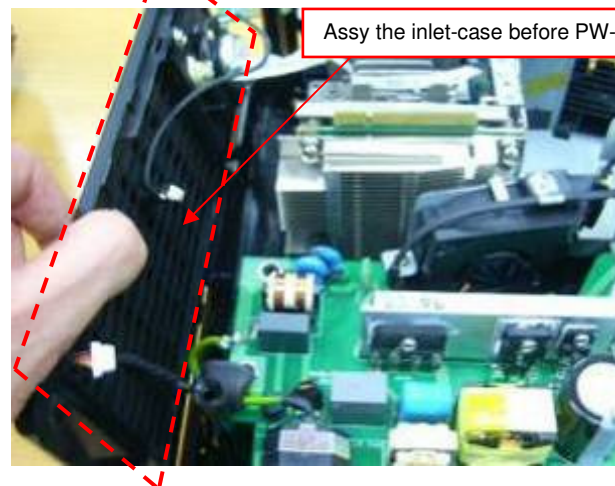
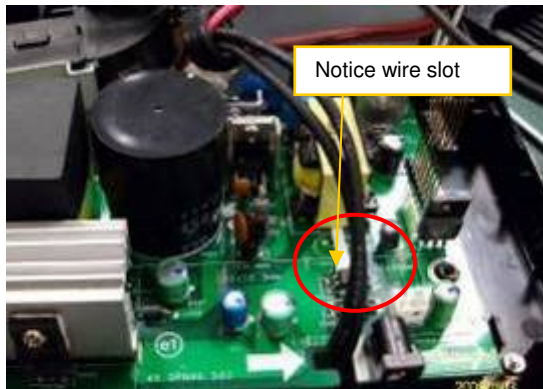
5. BKT MB & Mylar

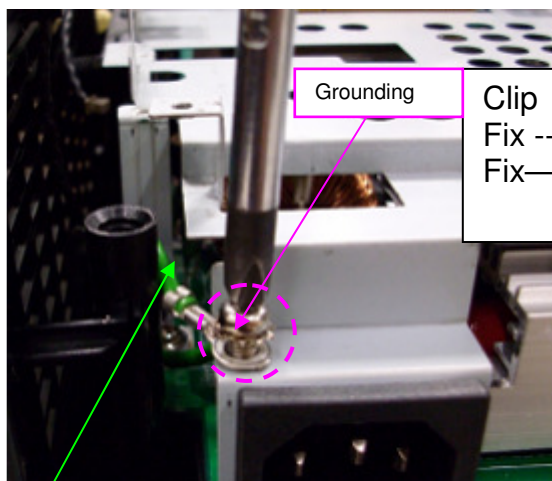
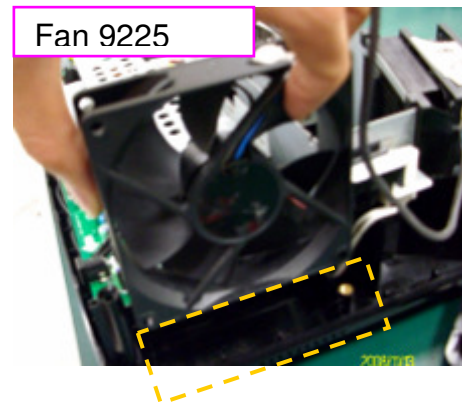
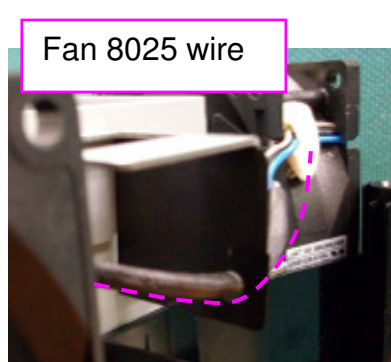
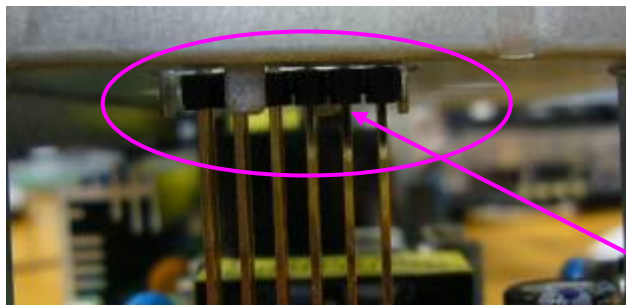
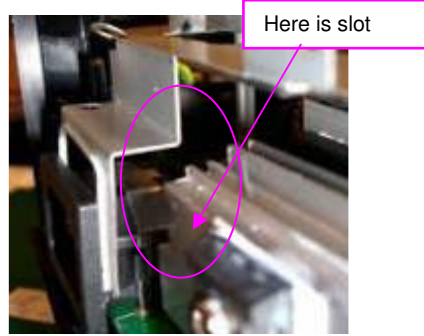
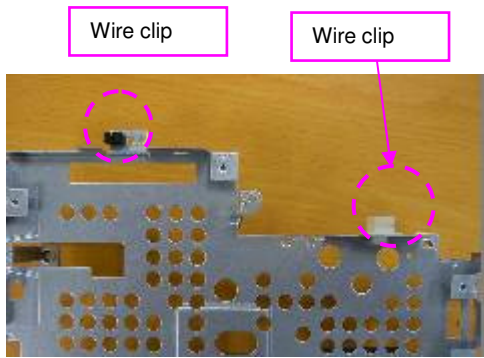


cover this surface

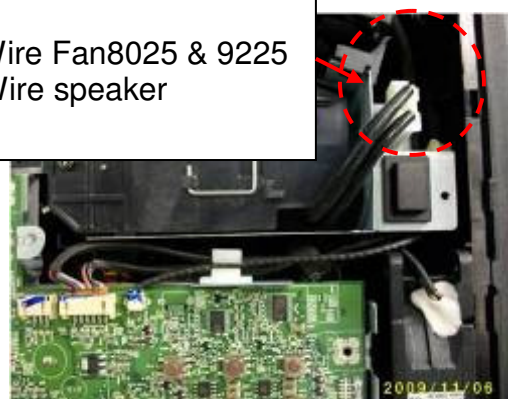


cover this surface





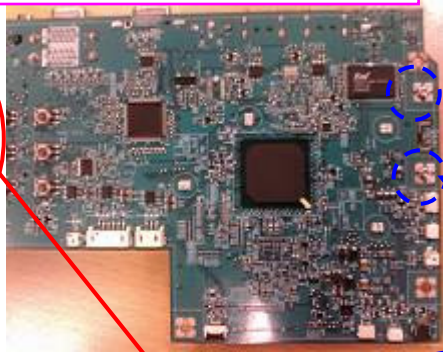
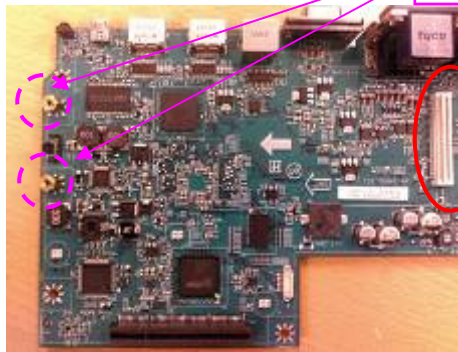
Clip
Fix --Wire Fan8025 & 9225
Fix—Wire speaker



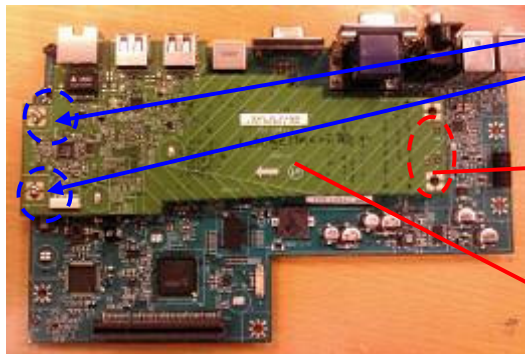
Yellow Green wire goes through here.

6. MB and Awin BD

STAND OFF M3 D6*9L CU

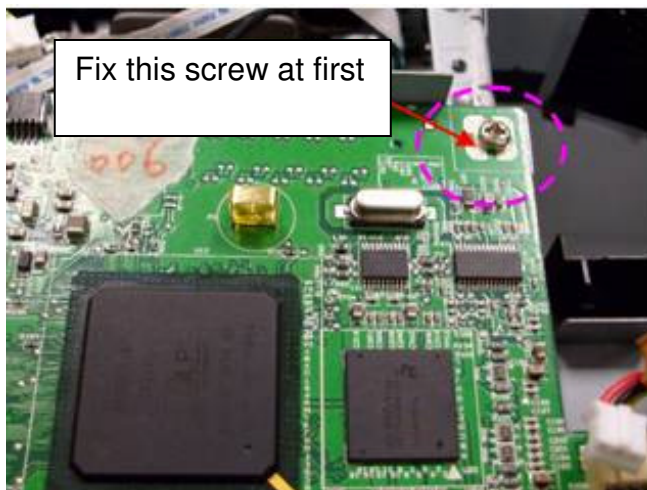


M3 screw mach

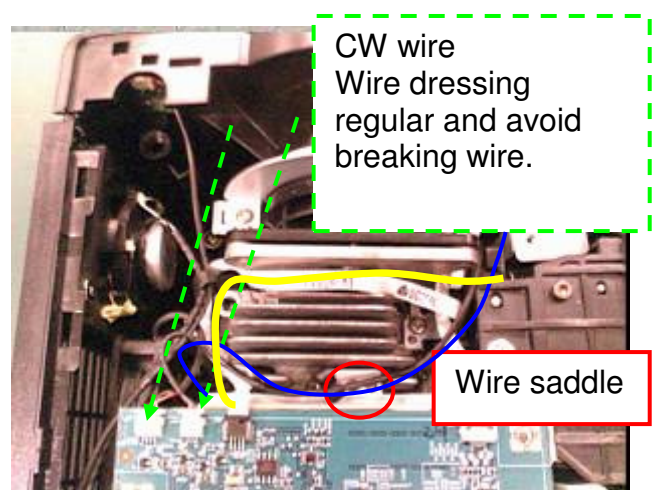


Slot insert

Awin BD

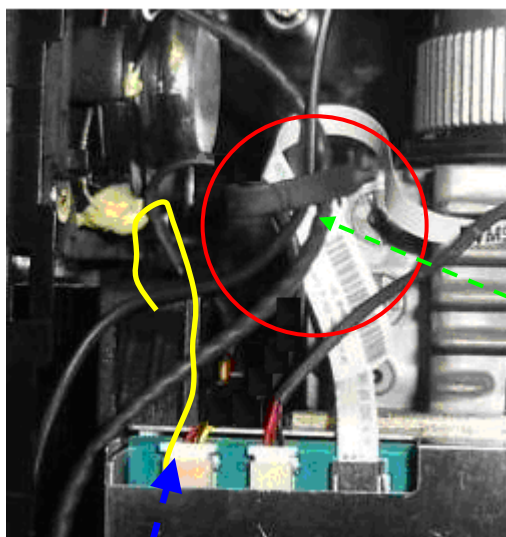


Fix this screw at first



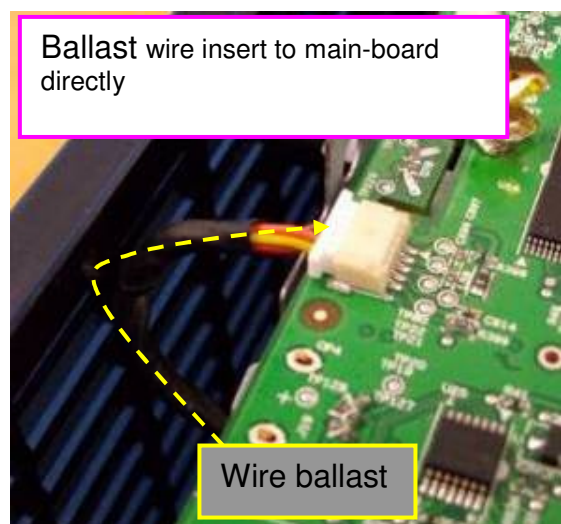
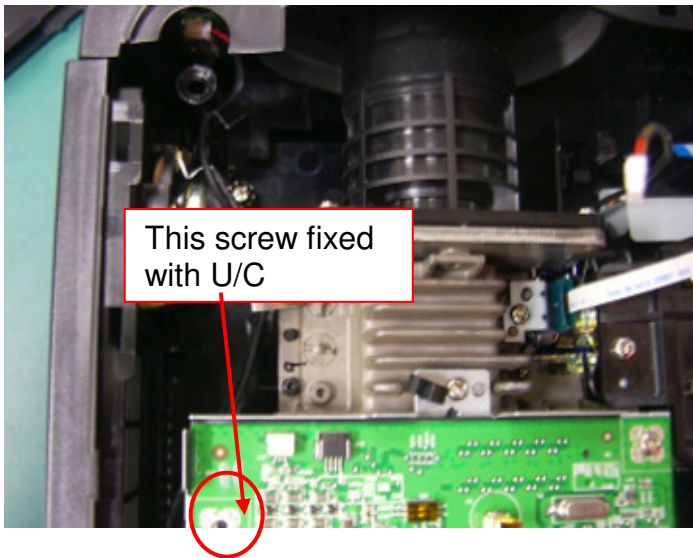
CW wire
Wire dressing
regular and avoid
breaking wire.

Wire saddle

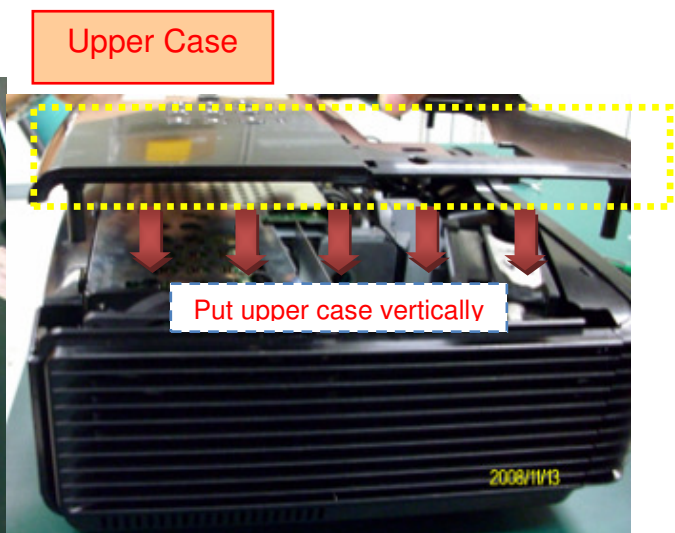
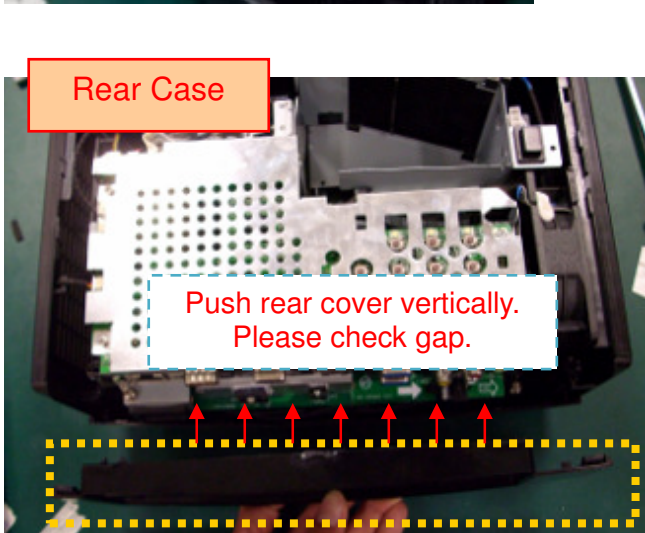
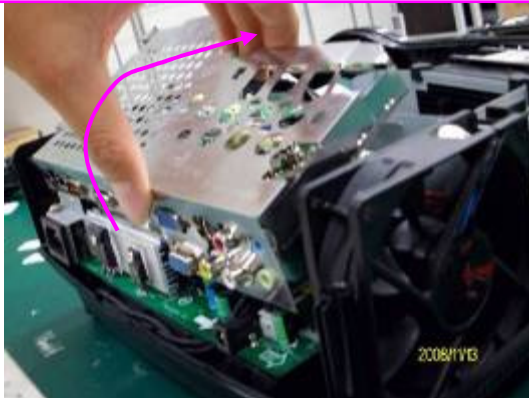


use clip to bind
speaker wire, IR wire, & CW wire

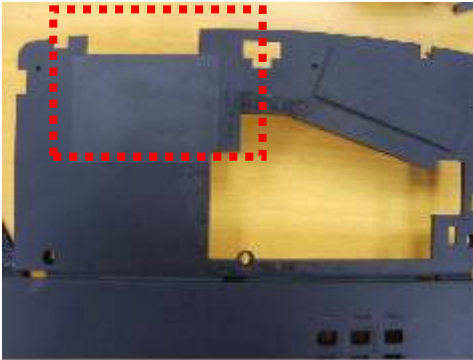
wire Fan6013



SHD Main-Board At first assemble back side then front side.



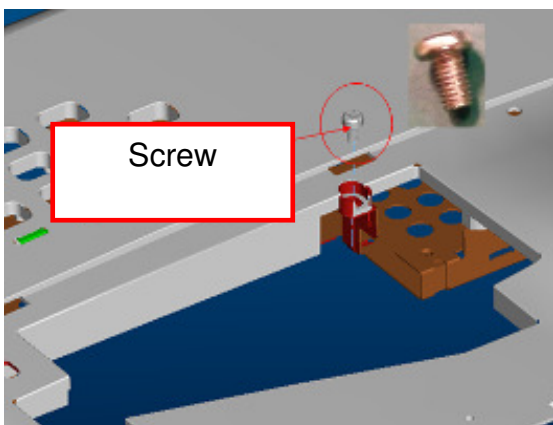
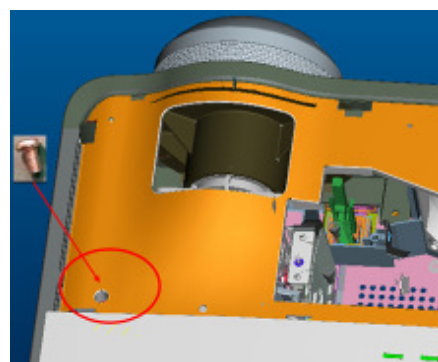
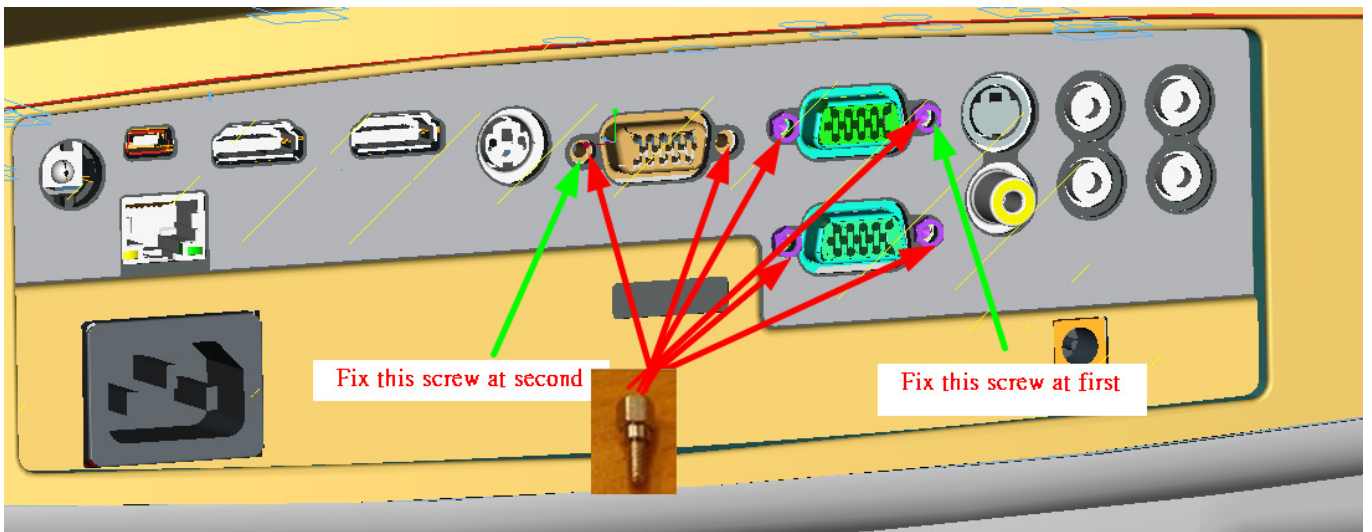
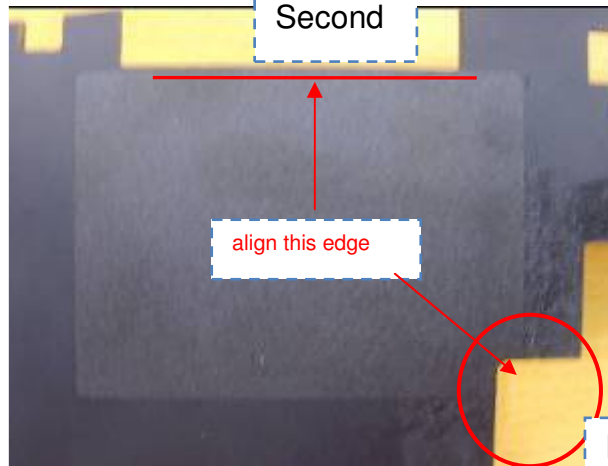
attach mylar on UC



Second

align this edge

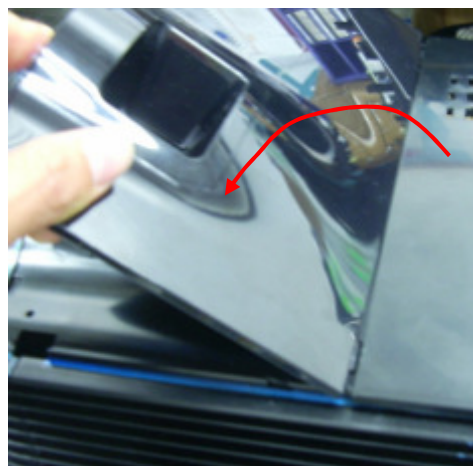
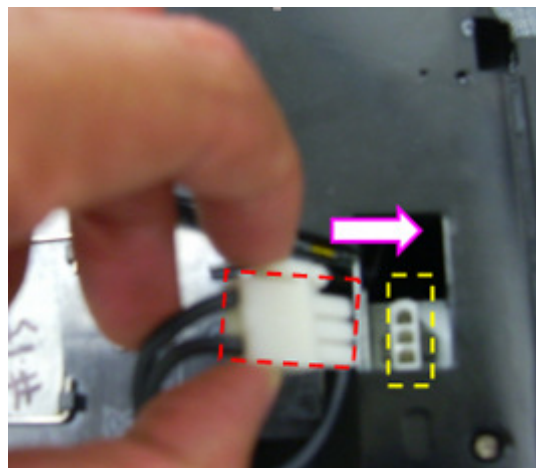
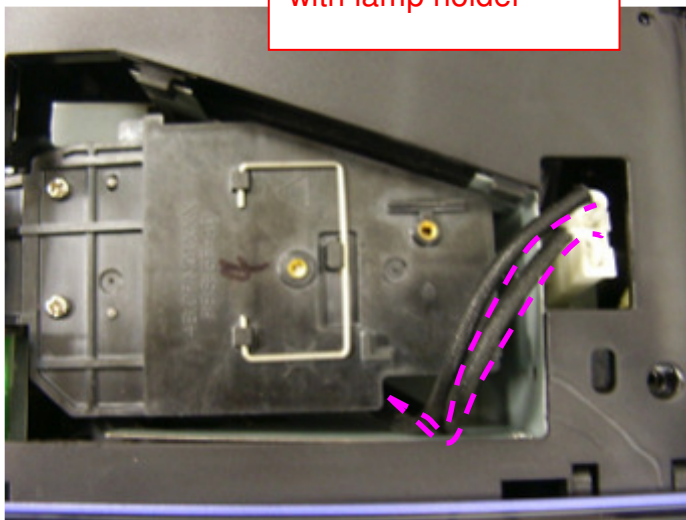
First



Before fixed screw, please check all hooks.



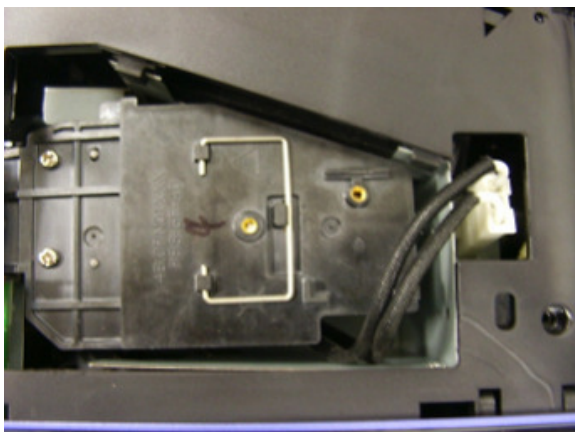
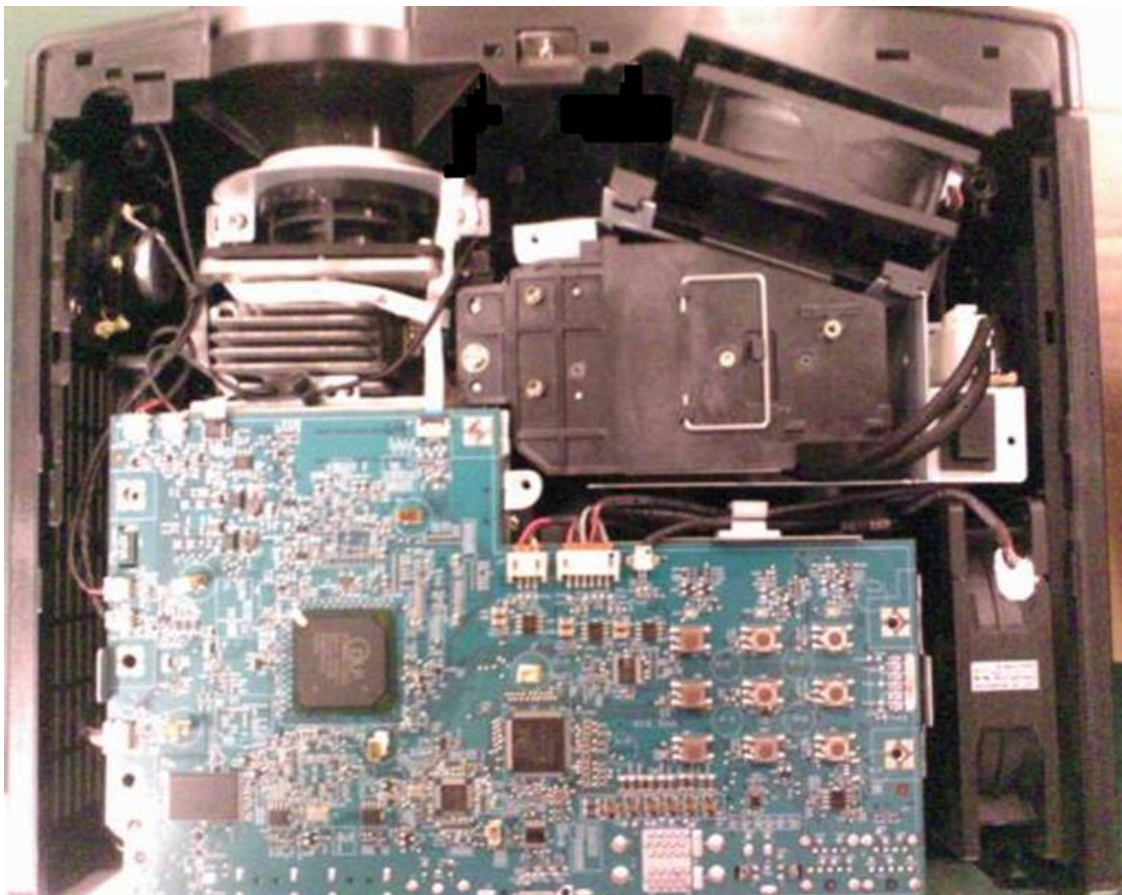
Notice wire dressing and don't interfere with lamp holder



Film lamp exploded



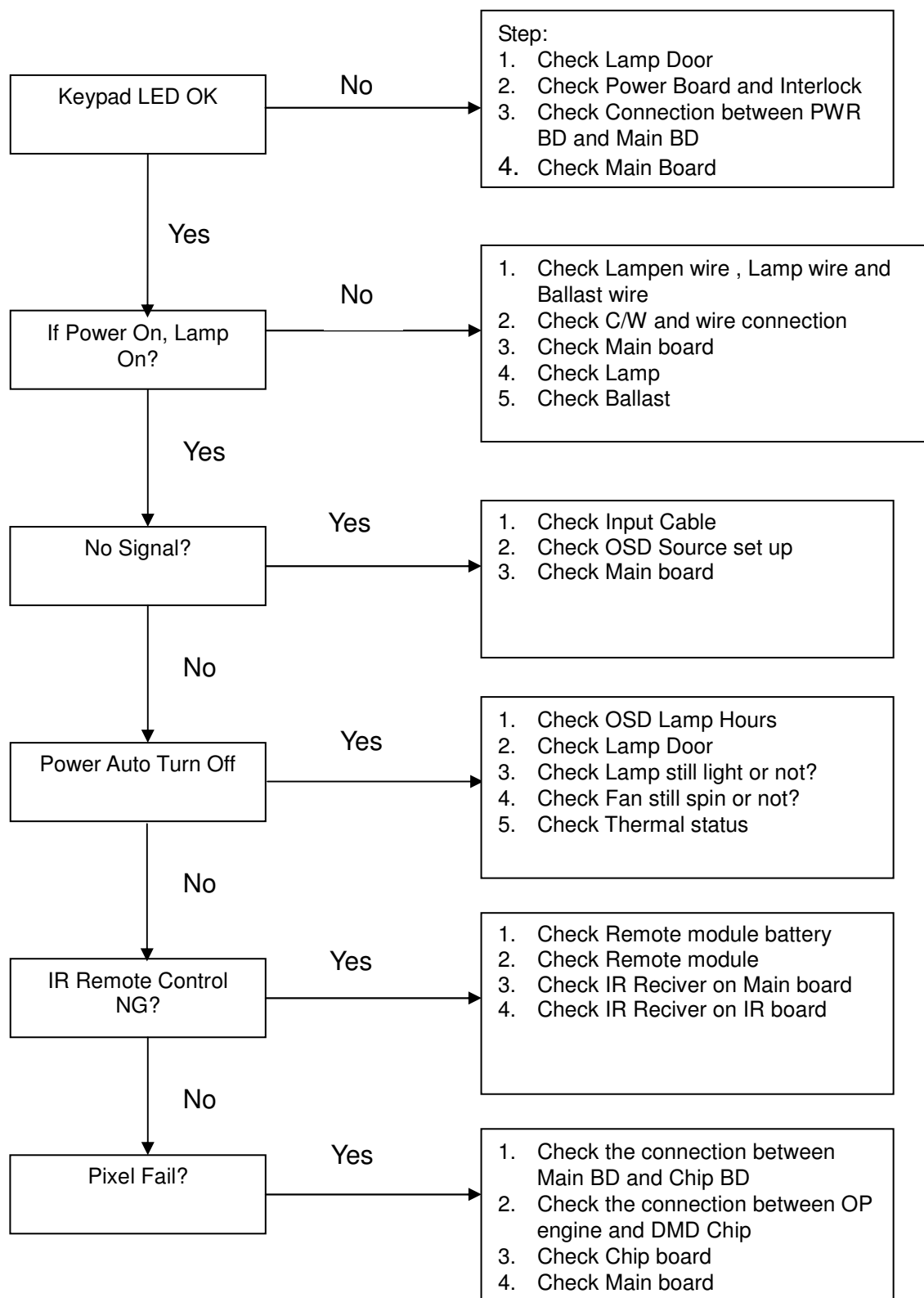
7. Overall wire review



Notice: lamp wire dressing.

Chapter 4 Troubleshooting

System Analysis



Optical & Optical Engine Trouble Shooting Guide

No.	Item	Trouble Shooting Guide
1	Brightness	1. Change lamp
2	Uniformity	1. Change lamp
3	FOFO Contrast	1. Check ADC calibration 2. Check user's menu brightness & contrast are default 3. Clean DMD 4. Clean PL 5. Check ILL stop assy
4	ANSI Contrast	1. Clean PL 2. Clean DMD 3. Change PL
5	Color	1. Check color wheel delay 2. Check CW 50% point. Replace CW if necessary
6	Color Uniformity	1. Change lamp
7	Blue Edge	1. Refer to Item#2-1 (attached below) 2. Change CM 3. Change SUB HSG
8	Blue/Purple Border	1. Refer to Item#2-1(attached below) 2. Change CM 3. Change SUB HSG
9	Focus	1. Change Projection Lens 2. Check parallel between PL datum and DMD
10	Dust	Clean DMD
11	Horizontal/Vertical Strips	1. Check connector between chipBD and MainBD 2. Re-install DMD with chipBD 3. Check if any pin of C-Spring is missing, damaged or dirty 4. Change new ChipBD/C-Spring 5. Change new DMD
12	Pixel Fail	Change new DMD

2-1. "Blue Edge" Trouble Shooting:

I. Re-adjust "Overfill" first.

For Overfill Re-adjustment:

i. Those 2 Adjustment Screws must be released for around 2 mm first.

ii. Alignment Sequence:

a. To adjust "Horizontal Adjustment Screw" firstly, then "Vertical Adjustment Screw".

b. Refer to Figure 2-1..

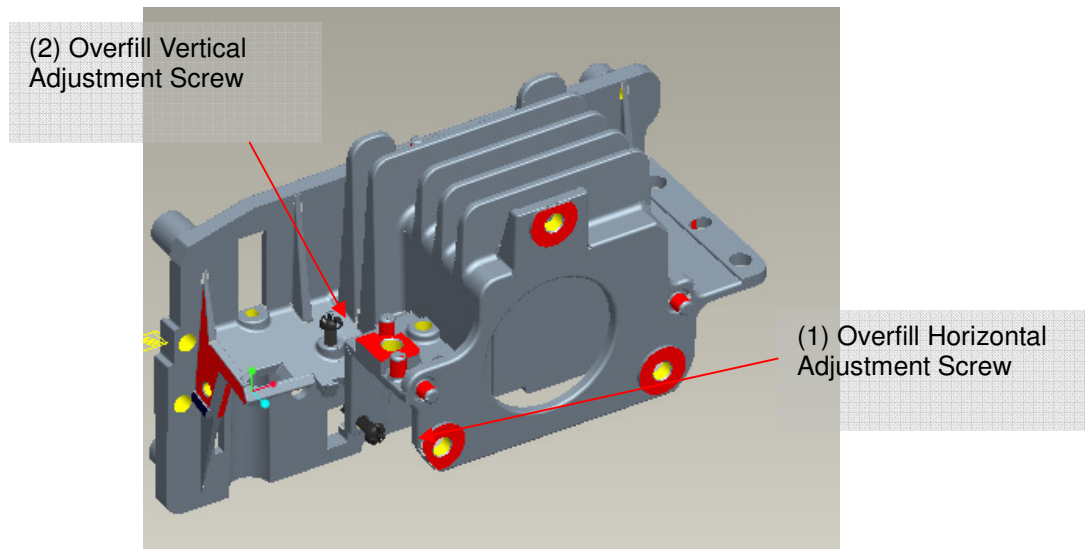


Fig. 2-1

II. Re-assemble LP module—include LP, LP Baffle, LP clip.

● DMD Image Quality

1. Scope

This document specifies the image quality requirements applicable to the DLP®.55XGA Type X, Series 450 Value, and [DLP™.65WXGA-800 Value](#) Component Set. The Component Set provides the DLP®. 55XGA Type X and Series 450 Value Projector with digital imaging functionality based on Digital Micromirror Device (DMD) technology.

2. Definitions: (Defects and Test Screens)

Blemish

A blemish is an obstruction, reflection, or refraction of light that is visible, but out of focus in the projected image under specified conditions of inspection (see Table 1). It is caused by a particle, scratch, or other artifact located in the image illumination path.

Dark pixel

A single pixel or mirror that is stuck in the OFF position and visibly darker than the surrounding pixels.

Bright pixel

A single pixel or mirror that is stuck in the ON position and visibly brighter than the surrounding pixels.

Unstable pixel

A single pixel or mirror that does not operate in sequence with parameters loaded into memory. The unstable pixel appears to be flickering asynchronously with the image.

Adjacent pixel

Two or more stuck pixels sharing a common border or common point, also referred to as a cluster.

Row or Column Defect

The reset boundary artifact is a single row of pixels on the reset group boundaries that are visibly darker or lighter than the neighboring rows of pixels.

Pond of Mirrors (POM)

POM is a rectangular array of off-state mirrors surrounding the active area.

Eyecatcher

Eyecatcher's are blemishes appearing in the area outside of the Active Area. These are due to particles and various DMD window or window aperture "defects" including: digs, voids, and scratches.

Border Artifacts

Border artifacts are a general category of image artifacts that may show up on screen in the area outside of the active array. Border artifacts include: Exposed Bond Wires, Exposed Metal 2, and Reflective Edge.

Bond Wires

Bond Wires are the electrical connections between the die and the DMD ceramic package. If visible, they will appear as short light parallel lines outside of the Pond of Mirrors (POM).

Exposed Metal 2

Exposed Metal 2 is due to a shift in positioning of either the die or the window aperture, which may allow light to be reflected off of the layer of metal 2 that is below the super structure (mirrors). This defect is located outside of the POM.

Reflective Edge

Reflective Edge is light that may reflect from the edge of the DMD window aperture onto the projection screen. It will appear as a thin diffuse line outside of the POM.

Blue 60 Screen

The Blue 60 screen is used to test for major dark blemishes. All areas of the screen are colored a Microsoft Paintbrush blue 60 (green and red set at 0, blue set at 60). NOTE: If linear degamma is not used then the Microsoft Paintbrush values must be adjusted to match the degamma table being used in order to generate an equivalent blue level on the test screen image.

Gray 10 Screen

The Gray 10 screen is used to test for major light blemishes. All areas of the screen are colored a Microsoft Paintbrush gray 10 (green, red, and blue set at 10).

NOTE: If linear degamma is not used then the Microsoft Paintbrush values must be adjusted to match the degamma table being used in order to generate an equivalent gray level on the test screen image.

Gray 30 Screen

The Gray 30 screen is used to test for the reset boundary artifact. All areas of the screen are colored a Microsoft Paintbrush gray 30 (green, red, and blue set at 30).

NOTE: If linear degamma is not used then the Microsoft Paintbrush values must be adjusted to match the degamma table being used in order to generate an equivalent gray level on the test screen image.

3. ACCEPTANCE REQUIREMENTS

3.1 Conditions of Acceptance

All DMD image quality returns will be evaluated using the following projected image test conditions:

- Test Set degamma shall be linear.
- Test Set brightness and contrast settings shall be set to nominal.
- The diagonal size of the projected image shall be a minimum of 60 inches.
- The projection screen shall be 1X gain.
- The projected image shall be inspected from an 8 feet minimum viewing distance.
- The image shall be in focus during all Table 1 tests.

3.2 Test Sequence

Tests shall be run in the sequence listed in Table 1.

Table 1 Image Quality Specification (for S5201/S5201B)

SEQ#	Test	SCREEN	ACCEPTANCE CRITERIA
1	Major Dark Blemish	Blue 60	1. ≤ 4 visible dark blemishes are allowed in the active area 2. No blemish will be $> 1.5''$ long/diameter
2	Major Light Blemish	Gray 10	1. ≤ 4 visible dark blemishes are allowed in the active area 2. No blemish will be $> 1.5''$ long/diameter
3	Reset Boundary Artifact	Gray 30	No reset boundary artifacts allowed
4	Eyecatchers / Border Artifacts	Any screen	Eyecatcher and border artifacts are allowed
5	Projected Images	1. Any screen 2. Gray 10 3. Any screen 4. Gray 10 5. Whit 6. Any screen 7. Any screen	1. No adjacent pixels 2. No bright pixels in Active Area 3. No unstable Pixels in Active Area 4. ≤ 1 right pixel in the POM 5. ≤ 4 dark pixels in the Active Area 6. No DMD window aperture shadowing on the Active Area 7. Minor blemishes are allowed

Table 2 Image Quality Specification (for S5301WB)

SEQ#	Test	SCREEN	ACCEPTANCE CRITERIA
1	Major Dark Blemish	Blue 60	1. ≤ 4 visible dark blemishes are allowed in the active area 2. No blemish will be $> 1''$ long/diameter
2	Major Light Blemish	Gray 10	1. ≤ 4 visible dark blemishes are allowed in the active area 2. No blemish will be $> 1''$ long/diameter
3	Reset Boundary Artifact	Gray 30	No reset boundary artifacts allowed
4	Eyecatchers / Border Artifacts	Any screen	Eyecatcher and border artifacts are allowed
5	Projected Images	8. Any screen 9. Gray 10 10. Any screen 11. Gray 10 12. Whit 13. Any screen 14. Any screen	1. No adjacent pixels 2. No bright pixels in Active Area 3. No unstable Pixels in Active Area 4. ≤ 1 right pixel in the POM 5. ≤ 4 dark pixels in the Active Area 6. No DMD window aperture shadowing on the Active Area 7. Minor blemishes are allowed

Notes:

1. Projected blemish numbers include the count for the shadow of the window artifact in addition to the artifact itself.
2. During all Table 1 tests, projected images shall be inspected in accordance with the

conditions of inspection specified in Section 3.

3. The rejection basis for all cosmetic DMD defects (scratches, nicks, particles) will be the projected image tests referenced in Table 1.
4. Devices that meet this image quality specification but are deemed undesirable by the customer may not be returned to TI without prior approval by TI.
5. Screens < Gray 10 shall not be used as a basis for rejecting a DMD for image quality.

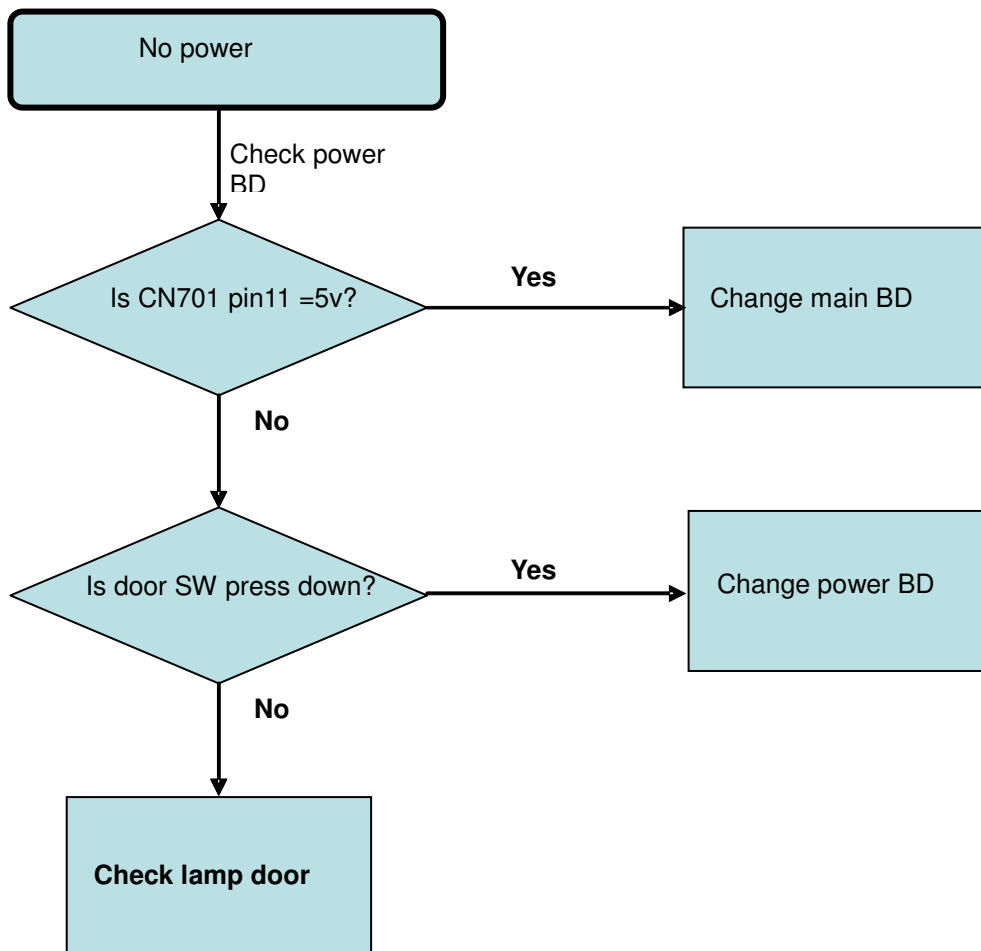
Power Supply Trouble Shooting Guide

1. Introduction

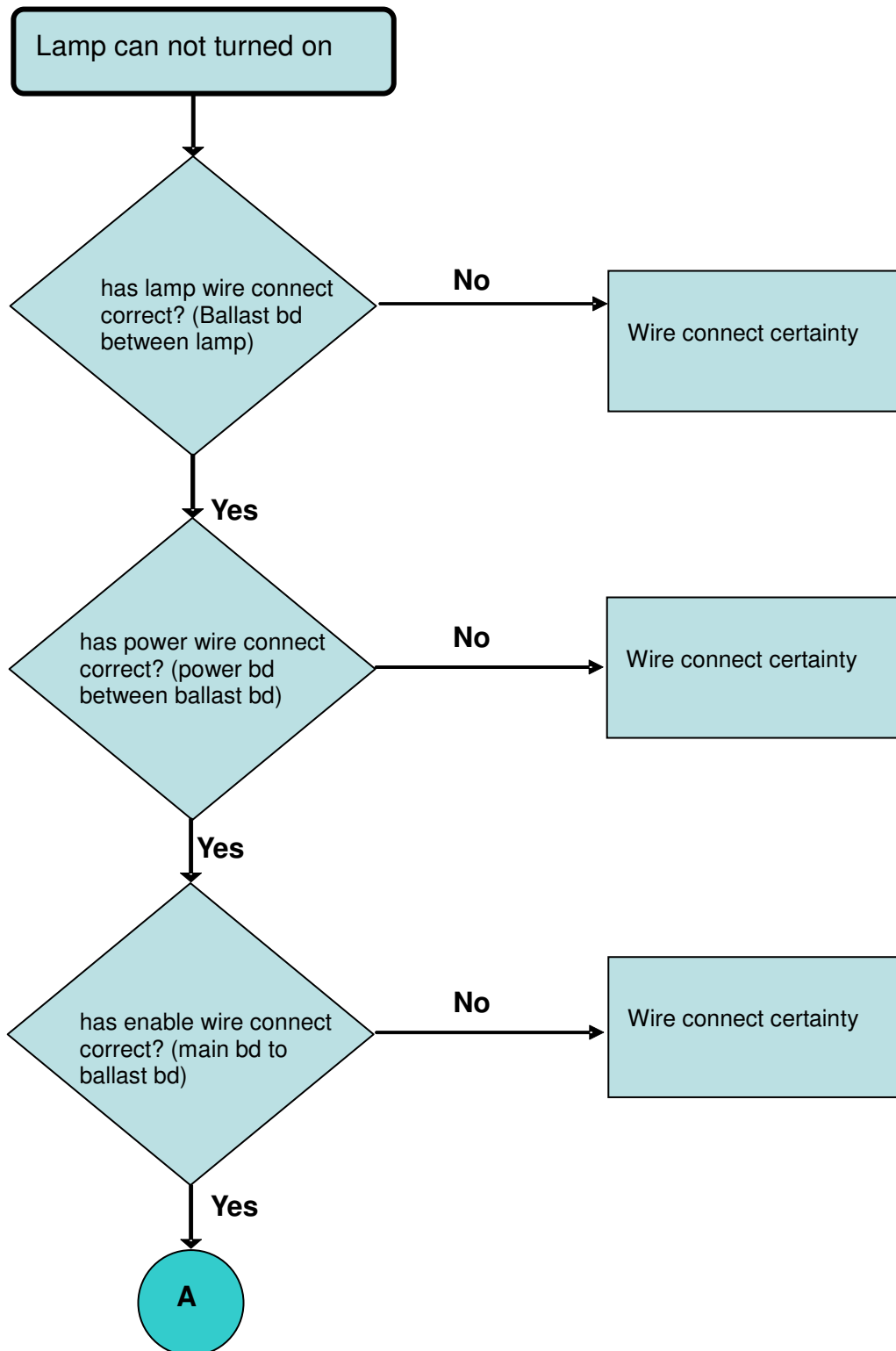
This document is prepared to be a guide to repair trouble sets, some problems happen more frequently are taken as example in it.

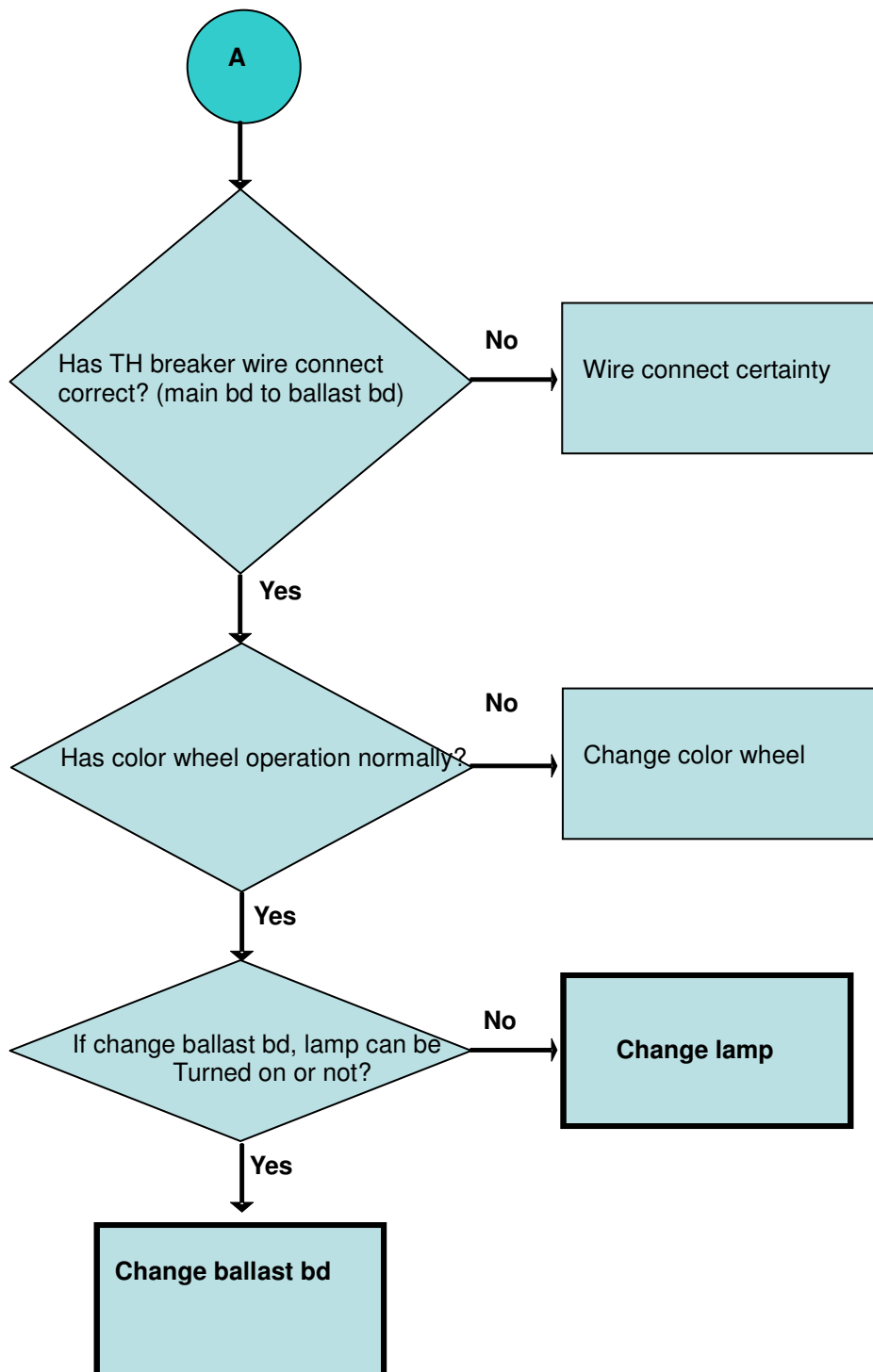
2. Problems

(a) no power



(b) lamp can not turned on





LED Messages Definition

	Power_LED	Power_LED	Lamp_LED	Temp_LED
	Blue	Red	Red	Red
Power Plug	-	Flash ON to OFF	Flash ON to OFF	Flash ON to OFF
Standby	--	ON	--	--
Power button ON	ON	--	--	--
Lamp retry	0.5 second H(On), 0.5 second L(Off) flashing	--	--	--
Cooling state	--	0.5 second H(ON), 0.5 second L(OFF) flashing	--	--
Power button OFF: Cooling completed; Standby Mode	--	ON	--	--
Firmware Download	ON	ON	--	--
Thermal sensor error ($T_2 \geq 85^{\circ}\text{C}$) (Lamp Over Temperature) OSD shows "Projector Overheated"	ON	--	--	ON
Thermal sensor error ($T_1 \geq 40^{\circ}\text{C}$) OSD shows "Projector Overheated"	ON	--	--	ON
Fan lock error OSD shows red "Fan Fail, Will automatically turn off soon"	ON	--	--	0.5 second H(On), 0.5 second L(Off) flashing
Lamp error (Lamp, ballast)	ON	--	ON	--
Color Wheel fail	ON	--	0.5 second H(ON), 0.5 second L(OFF) flashing	--

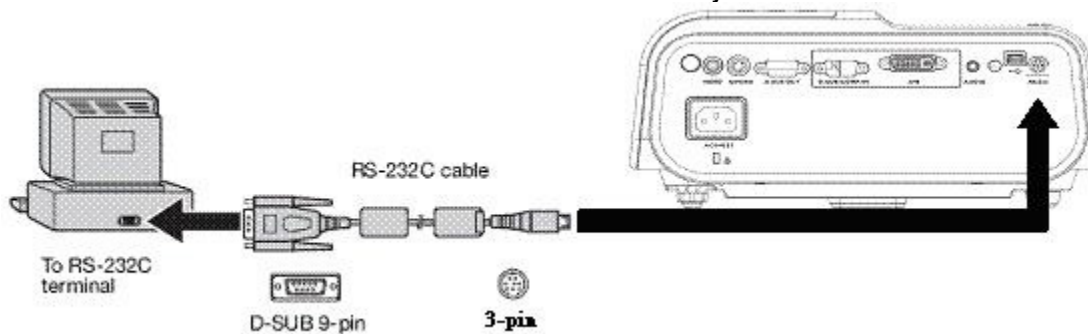
Error Count Messages Definition

Error Count	Definition	Specification
LAMP Fail error	LAMP OFF	DETECT LAMPLIT
FAN 1 Speed Error	LAMP FAN SPEED ERROR	SPEED OVER $\pm 20\%$
FAN 2 Speed Error	POWER FAN SPEED ERROR	SPEED OVER $\pm 20\%$
FAN 3 Speed Error	BLOWER FAN SPEED ERROR	SPEED OVER $\pm 20\%$
FAN 4 Speed Error	DMD FAN SPEED ERROR	SPEED OVER $\pm 20\%$
Sensor 1 Open Error	Main Board SENSOR ERROR	DETECT Sensor 1
Sensor 1 Short Error	Main Board SENSOR ERROR	DETECT Sensor 1
Temperature 1 Error	over limited temperature	DETECT Sensor 1
FANIC 1 I2C ERROR	I2C communication error	DETECT Fan IC

RS232 Connection

1. Connection:

The illustration of connection between PC and Projector is shown below.

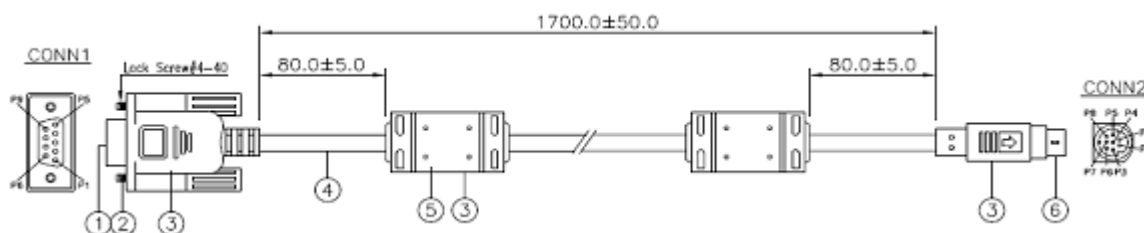


<CAUTION>

- ◆ Make sure that your computer and projector are turned off before connection.
- ◆ Power on the computer first, and then plug the power cord of the projector. (It may cause Com port incorrect function, if you do not follow this instruction)
- ◆ Adapters may be necessary depending on the PC connected to this projector. Please contact with your dealer for further details.

2. Hardware connection

<Download cable>



<Pin assignment for this two end>

WIRE RUN LIST		
CONN1	COLOR	CONN2
3	黒	5
7	棕	
4	紅	
5	橙	7
8	黄	
1	緑	
2	藍	3
9	白	
Shell	SHIELD	Shell

<Interface Settings>

RS-232 protocol	
Baud Rate	9600 bps
Data Length	8 bit
Parity Check	None
Stop Bit	1 bit
Flow Control	None

Command Category

Refer to Appendix A

Adjustment / Alignment Procedure

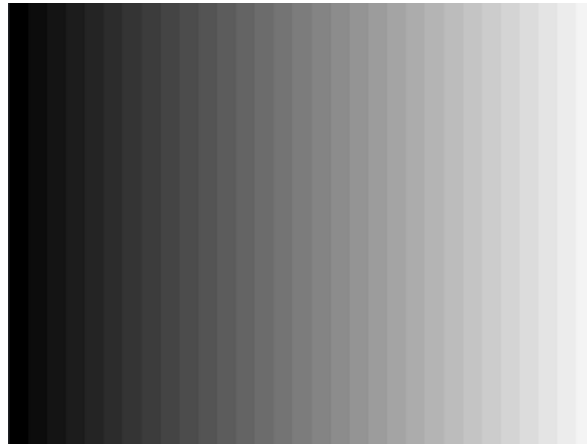
Content :

1. Color Wheel Delay Alignment
2. Overfill adjustment
3. PC Alignment Procedure

1. Color Wheel Delay Alignment

Procedure:

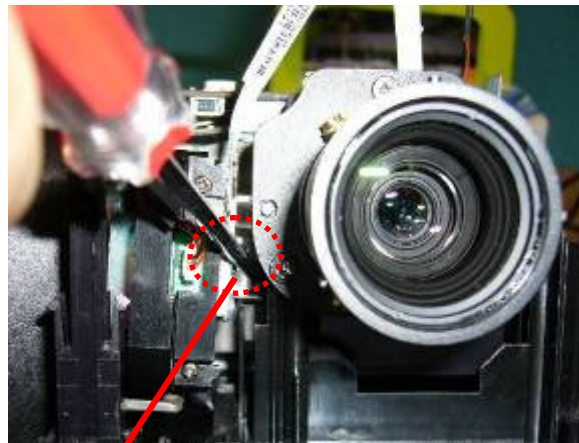
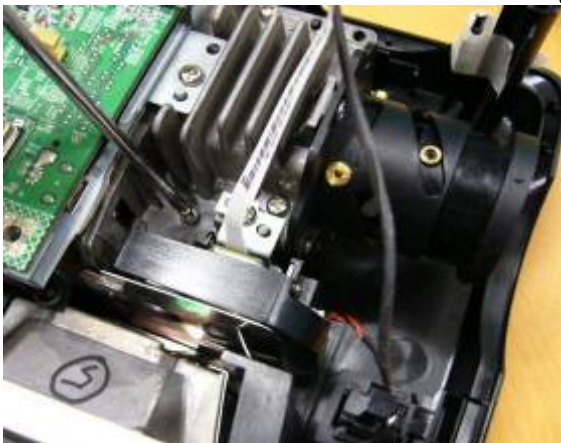
1. Enter Factory Mode
2. Enter Block 1
3. Change CW Delay by adjusting the following gray pattern to smooth



32 Gray pattern

2. Overfill adjustment

1. "Full White Pattern" is suggested for this alignment.
2. Adjust 2 LP-alignment Screws (upper side / lower front side of Optical Engine) behind Color Wheel.
3. Alignment Criteria is to adjust these 2 screws until "No Dark Edges" and "No Shadows" can be observed in image.



3. PC Alignment Procedure

Equipment:

- Pattern generator (Chroma-2337)

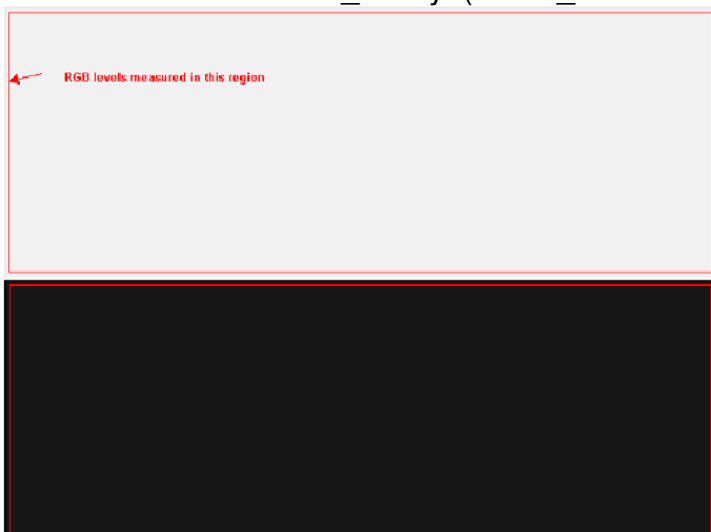
OSD Default value:

Item	Value
Cal R Offset	512
Cal G Offset	512
Cal B Offset	512
Cal R Gain	637
Cal G Gain	637
Cal B Gain	637
YPbPr R Offset	512
YPbPr B Offset	512

Procedure:

Gray Level:

1. Connect power, D-sub, into projector.
2. Change Timing and pattern of pattern generator:
3. Timing: 1024*768 @60Hz (XGA)
4. Pattern: As Figure1 {A near white color (240,240,240) and a near black color(16,16,16)}
5. Light on projector
6. Set user OSD values to default.
7. Enter factory mode.
8. Set Factory values to default.
9. Press "Calibration RGB" to let the black level to just distinguish, and the light output of white level to just max.
10. Check the 32 levels of gray. All steps must appear.
11. Calibrate Dsub_1 only .(Dsub_2 follows Dsub_1)



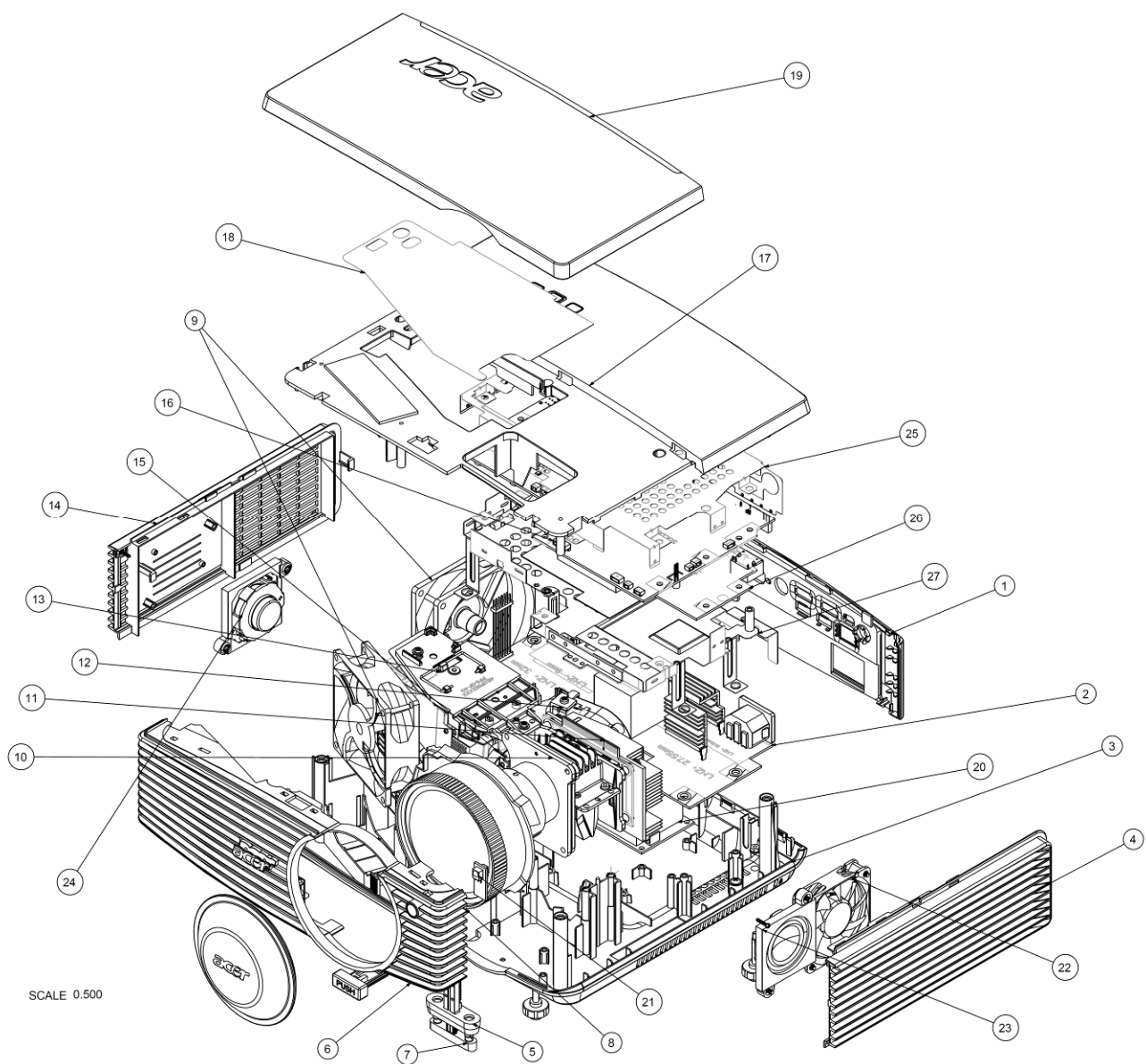
White-black pattern

Chapter 5 FRU List

Exploded Diagram

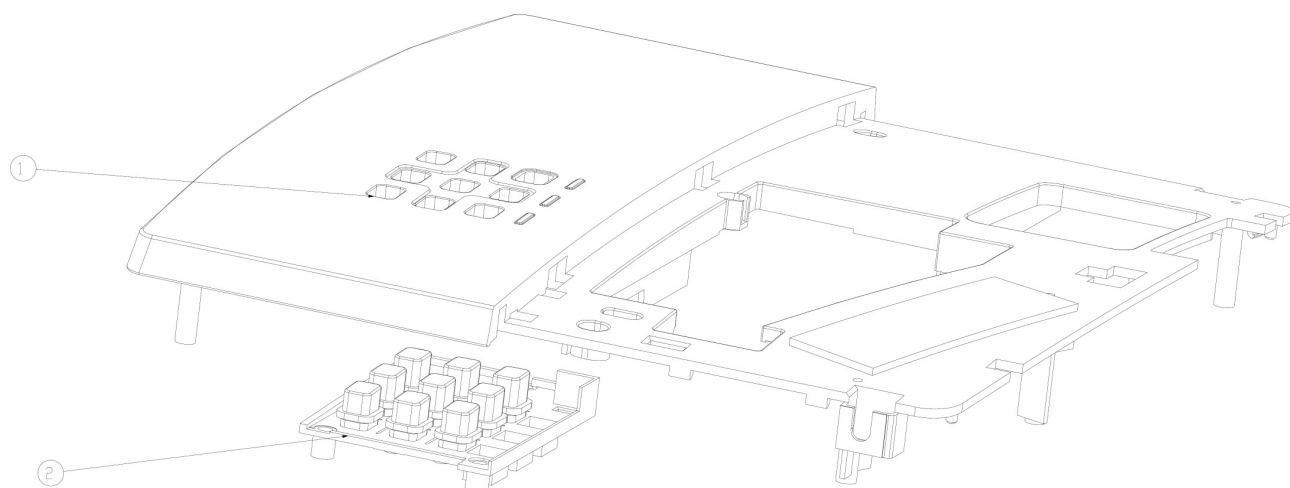
Module 1 – Total Exploded View

No.	Description	Quantity
1	ASSY SUB CASE REAR S5201	1
2	PCBA POWER BD MI SATURN10-2	1
3	ASSY CASE LOWER SATURN4	1
4	ASSY SUB CASE INLET SATURN	1
5	FOOT ADJFOOT PC MP622	1
6	ASSY CASE FRONT SATURN10-2	1
7	PAD ADJFOOT MP622	1
8	RING FOCUS B-ST PC SATURN4	1
9	FAN*2 80*25/92*25 AD0812UB/MX	1
10	PACK ASSY OPT ENG SATURN4	1
11	PCBA CHIP BD MI	1
12	ASSY BLOWER MODULE SATURN ST	1
13	PACK LAMP	1
14	ASSY CASE OUTLET SATURN ST	1
15	PACK CW MODULE	1
16	PCBA MAIN BD MI SATURN10-2	1
17	ASSY SUB CASE UPPER SATURN10-2	1
18	FILM LAMP EXPLODE SATURN4	1
19	ASSY LAMP DOOR SATURN4	1
20	BALLAST	1
21	PCBA IR BD MI MP522	1
22	FAN60*60*13 80MM AD0612UB-H93	1
23	SPK 5W4OHM120MM W4646CPF4 RB	1
24	SPK 5W 4OHM 140MM W4646CPF4	1
25	SHD MB SPTE SATURN10-2	1
26	PCBA AWIN BD	1
27	BKT MB SGCC SATURN10-2	1



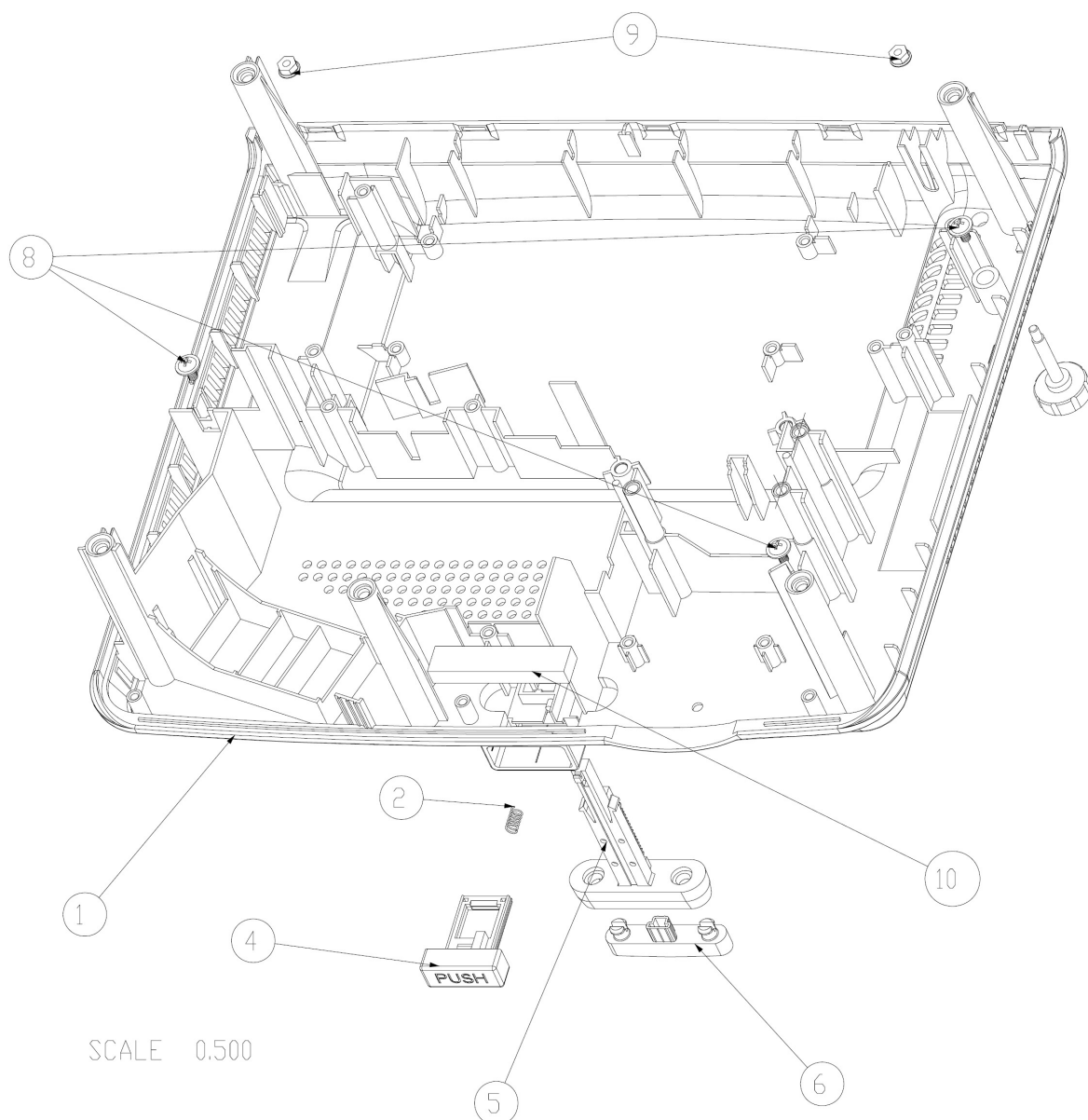
Module 2 – ASSY UPPER CASE

No.	Description
1	ASSY SUB CASE UPPER SATURN10-2
2	ASSY KEY SATURN10-2



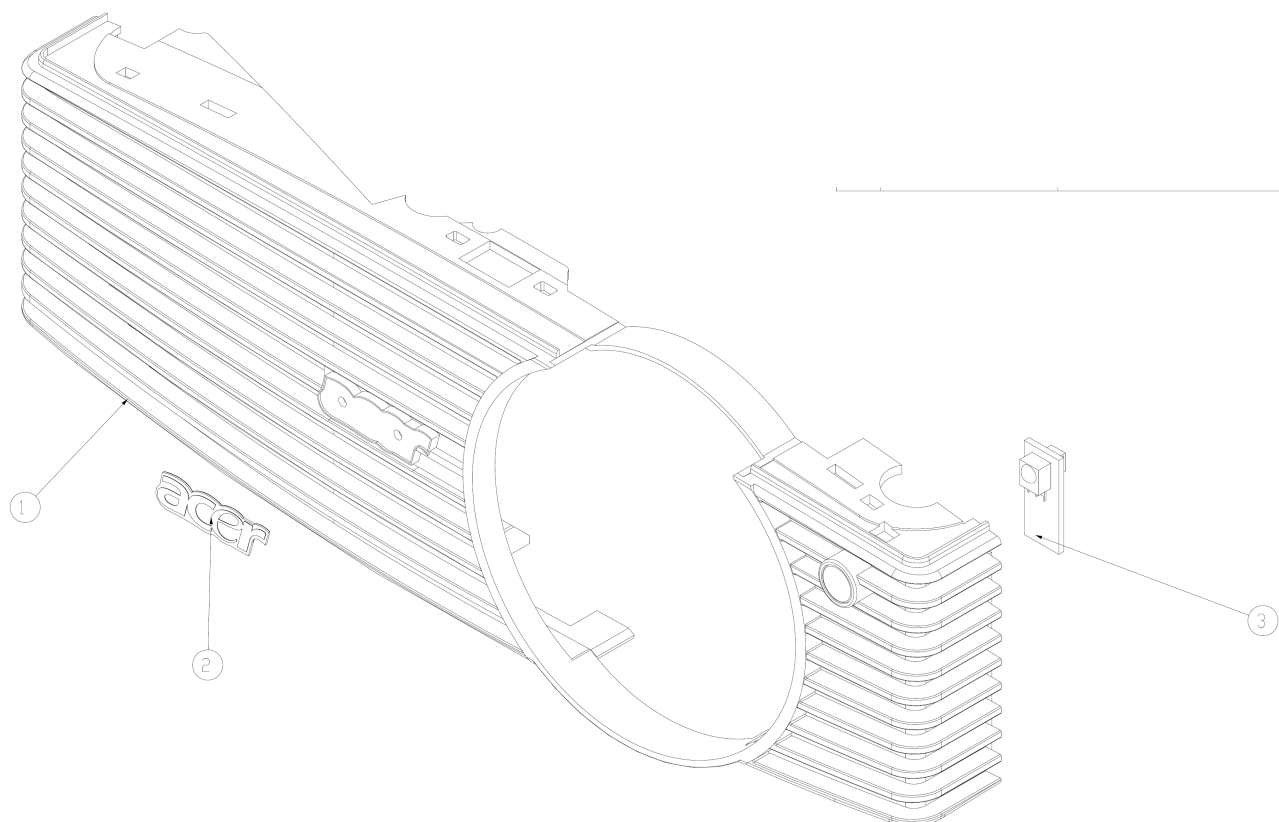
Module 3 – ASSY LOWER CASE

No.	Description
1	ASSY SUB LOWER CASE SATURN 4
2	SPRING SLIDER SUS304 MP622
3	GLUE ADHESIVE BB3005
4	SLIDER ADJFOOT PC MP622
5	FOOT ADJFOOT PC MP622
6	PAD ADJFOOT MP622
7	FOOT REAR ADJUST RUBBER M610
8	SCRW MACH PH W/FL M3*5L NI
9	NUT HEX+WASHER M3*2.3H NI
10	SPONGE ADJUST FOOT SATURN1



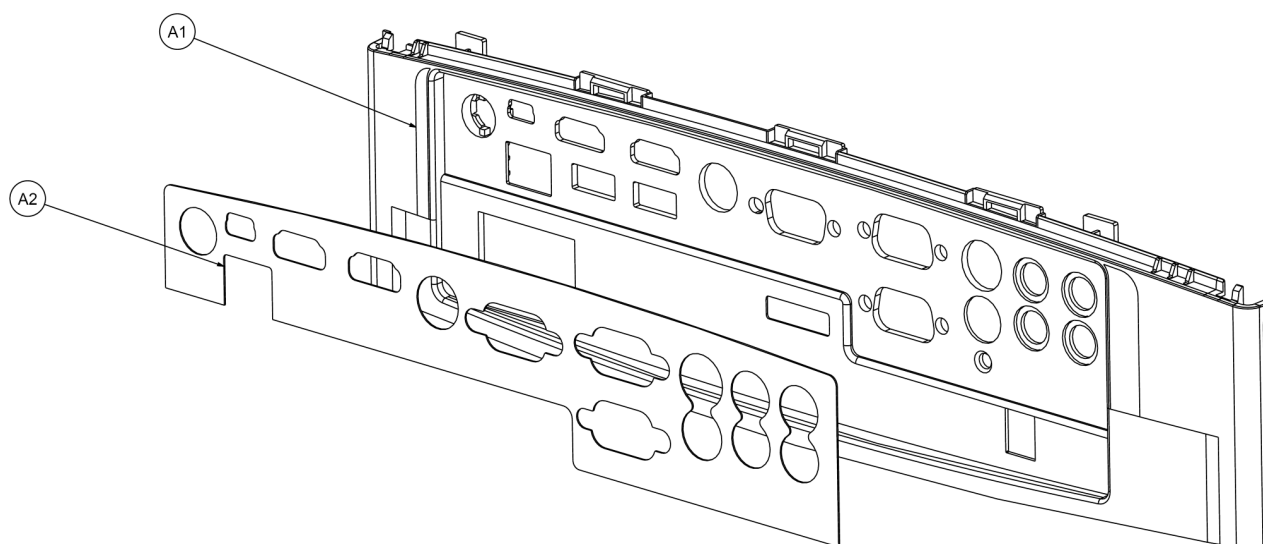
Module 4 – ASSY FRONT CASE

No.	Description
1	ASSY SUB CASE FRONT SATURN10-2
2	LOGO FC SATURN4
3	PCBA IR BD MI MP522



Module 5 – ASSY REAR CASE

No.	Description
A1	#CASE REAR PC SATURN10-2
A2	PLATE RC CONNECTOR S5201



FRU List

Model	CATEGORY	PARTNAME	ACER PART NO.	Photo
S5201/S5201B/ S5301WB	ACCESSORY	Acer R3 Remote Control Acer Rmote R3 with Laser	VZ.JBG00.001	
S5201/S5201B/ S5301WB	BOARD	DMD CHIP BOARD	55.JBG0Q.003	
S5201/S5201B/ S5301WB	BOARD	IR SENSOR BOARD	55.J900Q.005	
S5201/S5201B/ S5301WB	BOARD	TOOL KIT FOR EDID UPLOAD	6K.J900Q.001	
S5201	BOARD	MAIN BOARD	55.JC90Q.001	
S5201B	BOARD	MAIN BOARD	55.JCB0Q.001	
S5301WB	BOARD	MAIN BOARD	55.JCD0Q.001	
S5201/S5201B/ S5301WB	BOARD	BALLAST	55.JC20Q.002	
S5201/S5201B/ S5301WB	BOARD	POWER BOARD	55.JC90Q.002	
S5201	BOARD	EXTEND BOARD (WITH LAN CONN.)	55.JC90Q.003	

S5201B	BOARD	EXTEND BOARD (WITH USB/LAN CONN.)	55.JCB0Q.002	
S5301WB	BOARD	EXTEND BOARD (WITH USB/LAN CONN.)	55.JCD0Q.002	
S5201/S5201B/S5301WB	CABLE	POWER CORD EUR	27.LBJ0Q.001	
S5201/S5201B/S5301WB	CABLE	POWER CORD UK	27.LDW0Q.001	
S5201/S5201B/S5301WB	CABLE	POWER CORD SWIS	50.LE20Q.004	
S5201/S5201B/S5301WB	CABLE	D-SUB CABLE	50.J900Q.001	
S5201/S5201B/S5301WB	CABLE	RCA CABLE	50.J900Q.002	
S5201/S5201B/S5301WB	CABLE	CABLE-BALLAST TO LAMP	50.JBG0Q.002	
S5201/S5201B/S5301WB	CABLE	CABLE- M/B TO BALLAST	50.K140Q.004	
S5201/S5201B/S5301WB	CABLE	CABLE- M/B TO IR BOARD	50.K140Q.001	
S5201/S5201B/S5301WB	CABLE	CABLE- LAMP DOOR SWITCH	50.K140Q.005	
S5201/S5201B/S5301WB	CABLE	CABLE- POWER BOARD TO BALLAST	50.JBG0Q.003	

S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	INTEL CASE	60.K140Q.002	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	OUTLET CASE	60.K140Q.003	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	FRONT CASE (W/O IR BOARD) SATURN10-2	60.K140Q.009	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	FOCUS RING	60.K140Q.007	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	LAMP DOOR	60.K140Q.008	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	UPPER CASE (W/ KEYPAD RUBBER & BRACKET)	60.JBG0Q.002	
S5201/S5201B/ S5301WB	CASE/COVER/ BRACKET ASSEMBLY	LOWER CASE (W/ ADJUST FOOT)	60.K140Q.005	
S5201	CASE/COVER/ BRACKET ASSEMBLY	REAR CASE	60.JC90Q.001	
S5201B/S5301 WB	CASE/COVER/ BRACKET ASSEMBLY	REAR CASE	60.JBG0Q.001	
S5201/S5201B	DIGITAL LIGHT DEVICE	LIGHT PIPE	57.JBJ0Q.002	
S5301WB	DIGITAL LIGHT DEVICE	LIGHT PIPE MODULE	57.JC80Q.002	

S5201/S5201B	DIGITAL LIGHT DEVICE	LENS	57.K140Q.002	
S5301WB	DIGITAL LIGHT DEVICE	LENS	57.JC80Q.003	
S5201/S5201B	DIGITAL LIGHT DEVICE	DMD CHIP	57.K110Q.001	
S5301WB	DIGITAL LIGHT DEVICE	DMD CHIP	57.JC80Q.004	
S5201/S5201B	DIGITAL LIGHT DEVICE	COLOR WHEEL MODULE(W/ SENSOR BD & CABLE)	EC.JC900.001	
S5301WB	DIGITAL LIGHT DEVICE	Lamp Module for S5301WB Philips 230W	EC.JC900.001	
S5201/S5201B	DIGITAL LIGHT DEVICE	Lamp Module	57.JC90Q.001	
S5301WB	DIGITAL LIGHT DEVICE	COLOR WHEEL MODULE(W/ SENSOR BD & CABLE)	57.JCD0Q.001	
S5201/S5201B	DIGITAL LIGHT DEVICE	ENGINE MODULE	57.JBG0Q.002	
S5301WB	DIGITAL LIGHT DEVICE	ENGINE MODULE	57.JC80Q.005	
S5201/S5201B/ S5301WB	FAN	FAN (X2)	23.K140Q.001	

S5201/S5201B/ S5301WB	FAN	FAN (60*60*13 53MM)	23.K140Q.006	
S5201/S5201B/ S5301WB	FAN	FAN BLOWER MODULE	23.JC90Q.001	
S5201/S5201B/ S5301WB	MISCELLANE OUS	FOOT ADJFOOT	47.J900Q.001	
S5201/S5201B/ S5301WB	MISCELLANE OUS	RUBBER ADJFOOT PAD	47.K140Q.001	
S5201/S5201B/ S5301WB	MISCELLANE OUS	FILM LAMP EXPLODE SATURN4	47.K140Q.002	
S5201/S5201B/ S5301WB	MISCELLANE OUS	LENS IR REAR	47.JBG0Q.001	
S5201/S5201B/ S5301WB	SPEAKER	SPEAKER 140MM	23.K140Q.003	
S5201/S5201B/ S5301WB	SPEAKER	SPEAKER 120MM	23.K140Q.004	
S5201/S5201B/ S5301WB	MISCELLANE OUS	Qisda Dust filter Others_Projector P5205&S5200 Qisda Dust filter for China sku	JZ.K1300.001	

(Note) The updated P/N refers to latest Spare Part List

Appendix A - Code List: IR / RS232 / DDC Data

1. Remonte control code

1. IR Code

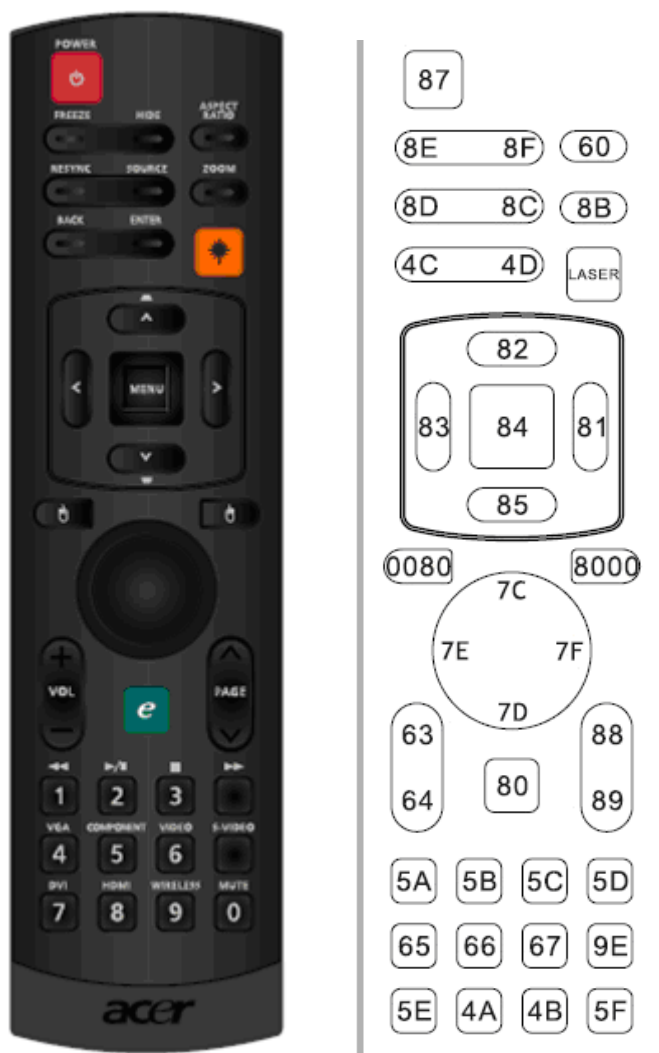
a. IR setting value

Frequency: 38kHz

Protocol: NEC format

b. IR command code

Customer code : 0813



2. RS-232 Command Code

General command type (Projector 'receives' commands)			
No	Code (character)	Function feature	Note
1	OKOKOKOKOK	Power On	support
2	* 0 IR 001	Power On	support
3	* 0 IR 002	Power Off	support
4	* 0 IR 004	Keystone	support
5	* 0 IR 006	Mute	support
6	* 0 IR 007	Freeze	support
7	* 0 IR 008	Menu	support
8	* 0 IR 009	Up	support
9	* 0 IR 010	Down	support
10	* 0 IR 011	Right	support
11	* 0 IR 012	Left	support
12	* 0 IR 013	Enter	Unsupport
13	* 0 IR 014	Re-Sync	support
14	* 0 IR 015	Source Analog RGB for D-sub	support
15	* 0 IR 016	Source Digital RGB	Unsupport
16	* 0 IR 017	Source PbPr for D-sub	support
17	* 0 IR 018	Source S-Video	support
18	* 0 IR 019	Source Composite Video	support
19	* 0 IR 020	Source Component Video	support
20	* 0 IR 021	Aspect ratio 16:9	support
21	* 0 IR 022	Aspect ratio 4:3	support
22	* 0 IR 023	Volume +	support
23	* 0 IR 024	Volume –	support
24	* 0 IR 025	Brightness	support
25	* 0 IR 026	Contrast	support
26	* 0 IR 027	Color Temperature	support
27	* 0 IR 028	Source Analog RGB for DVI Port	Unsupport
28	* 0 IR 029	Source Analog YPbPr for DVI Port	Unsupport
29	* 0 IR 030	Hide	support
30	* 0 IR 031	Source	support
31	* 0 IR 032	Video: Color saturation adjustment	support
32	* 0 IR 033	Video: Hue adjustment	support
33	* 0 IR 034	Video: Sharpness adjustment	support
34	* 0 IR 035	Query Model name	support
35	* 0 IR 036	Query Native display resolution	support
36	* 0 IR 037	Query company name	support
37	* 0 IR 040	Aspect ratio L.Box	Unsupport
38	* 0 IR 041	Aspect ratio 1:1	Unsupport

39	* 0 IR 042	Keystone Up	support
40	* 0 IR 043	Keystone Down	support
41	* 0 IR 044	Keystone Left	Unsupport
42	* 0 IR 045	Keystone Right	Unsupport
43	* 0 IR 046	Zoom	support
44	* 0 IR 047	e-Key	support
45	* 0 IR 048	Color RGB	support
46	* 0 IR 049	Language	support
47	* 0 IR 050	Source HDMI	support

3. DDC Data

(For S5201) :

Analog DDC	HDMI(1) DDC	HDMI(2) DDC
00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00
04 72 09 12 01 00 00 00	04 72 09 12 01 00 00 00	04 72 09 12 01 00 00 00
01 15 01 03 0E 00 00 78	01 15 01 03 80 00 00 78	01 15 01 03 80 00 00 78
0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25
13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C
45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80
81 00 95 00 A9 40 64 19	81 00 95 00 D1 C0 64 19	81 00 95 00 D1 C0 64 19
00 40 41 00 26 30 18 88	00 40 41 00 26 30 18 88	00 40 41 00 26 30 18 88
36 00 00 00 00 00 00 18	36 00 00 00 00 00 00 18	36 00 00 00 00 00 00 18
00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F
63 11 00 0A 20 20 20 20	63 11 00 0A 20 20 20 20	63 11 00 0A 20 20 20 20
20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53
35 32 30 31 0A 20 20 20	35 32 30 31 0A 20 20 20	35 32 30 31 0A 20 20 20
20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF
00 4A 43 39 30 35 30 30	00 4A 43 39 30 35 30 30	00 4A 43 39 30 35 30 30
33 38 34 30 31 0A 00 8C	33 38 34 30 31 0A 01 71	33 38 34 30 31 0A 01 71
6	02 03 24 71 4B 06 02 15	02 03 24 71 4B 06 02 15
ACER	11 04 13 05 14 90 1F 20	11 04 13 05 14 90 1F 20
S5201	23 09 17 07 83 01 00 00	23 09 17 07 83 01 00 00
ADT	67 03 0C 00 10 00 38 2D	67 03 0C 00 20 00 38 2D
A0	E3 05 03 01 01 1D 80 D0	E3 05 03 01 01 1D 80 D0
ddc2	72 1C 16 20 10 2C 25 80	72 1C 16 20 10 2C 25 80
	C4 8E 21 00 00 9E 01 1D	C4 8E 21 00 00 9E 01 1D
	80 18 71 1C 16 20 58 2C	80 18 71 1C 16 20 58 2C
	25 00 C4 8E 21 00 00 9E	25 00 C4 8E 21 00 00 9E
	01 1D 00 BC 52 D0 1E 20	01 1D 00 BC 52 D0 1E 20
	B8 28 55 40 C4 8E 21 00	B8 28 55 40 C4 8E 21 00
	00 1E 8C 0A A0 14 51 F0	00 1E 8C 0A A0 14 51 F0
	16 00 26 7C 43 00 13 8E	16 00 26 7C 43 00 13 8E
	21 00 00 B8 00 00 00 00	21 00 00 B8 00 00 00 00
	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	00 00 00 00 00 00 00 B2	00 00 00 00 00 00 00 A2
	6	6
	ACER	ACER
	S5201	S5201
	ADT	ADT
	D0	D0
	ddc2	ddc2

(For S5201B) :

Analog DDC	HDMI(1) DDC	HDMI(2) DDC
00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00
04 72 11 12 01 00 00 00	04 72 11 12 01 00 00 00	04 72 11 12 01 00 00 00
01 15 01 03 0E 00 00 78	01 15 01 03 80 00 00 78	01 15 01 03 80 00 00 78
0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25
13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C
45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80
81 00 95 00 A9 40 64 19	81 00 95 00 D1 C0 64 19	81 00 95 00 D1 C0 64 19
00 40 41 00 26 30 18 88	00 40 41 00 26 30 18 88	00 40 41 00 26 30 18 88
36 00 00 00 00 00 00 18	36 00 00 00 00 00 00 18	36 00 00 00 00 00 00 18
00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F
63 11 00 0A 20 20 20 20	63 11 00 0A 20 20 20 20	63 11 00 0A 20 20 20 20
20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53
35 32 30 31 42 0A 20 20	35 32 30 31 42 0A 20 20	35 32 30 31 42 0A 20 20
20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF
00 4A 43 42 30 35 30 30	00 4A 43 42 30 35 30 30	00 4A 43 42 30 35 30 30
31 38 34 30 31 0A 00 5B	31 38 34 30 31 0A 01 40	31 38 34 30 31 0A 01 40
6	02 03 24 71 4B 06 02 15	02 03 24 71 4B 06 02 15
ACER	11 04 13 05 14 90 1F 20	11 04 13 05 14 90 1F 20
S5201B	23 09 17 07 83 01 00 00	23 09 17 07 83 01 00 00
ADT	67 03 0C 00 10 00 38 2D	67 03 0C 00 20 00 38 2D
D0	E3 05 03 01 01 1D 80 D0	E3 05 03 01 01 1D 80 D0
ddc2	72 1C 16 20 10 2C 25 80	72 1C 16 20 10 2C 25 80
	C4 8E 21 00 00 9E 01 1D	C4 8E 21 00 00 9E 01 1D
	80 18 71 1C 16 20 58 2C	80 18 71 1C 16 20 58 2C
	25 00 C4 8E 21 00 00 9E	25 00 C4 8E 21 00 00 9E
	01 1D 00 BC 52 D0 1E 20	01 1D 00 BC 52 D0 1E 20
	B8 28 55 40 C4 8E 21 00	B8 28 55 40 C4 8E 21 00
	00 1E 8C 0A A0 14 51 F0	00 1E 8C 0A A0 14 51 F0
	16 00 26 7C 43 00 13 8E	16 00 26 7C 43 00 13 8E
	21 00 00 B8 00 00 00 00	21 00 00 B8 00 00 00 00
	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	00 00 00 00 00 00 00 B2	00 00 00 00 00 00 00 A2
	6	6
	ACER	ACER
	S5201B	S5201B
	ADT	ADT
	D0	D0
	ddc2	ddc2

(For S5301WB) :

Analog DDC	HDMI(1) DDC	HDMI(2) DDC
00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00	00 FF FF FF FF FF FF 00
04 72 13 12 01 00 00 00	04 72 13 12 01 00 00 00	04 72 13 12 01 00 00 00
01 15 01 03 0E 00 00 78	01 15 01 03 80 00 00 78	01 15 01 03 80 00 00 78
0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25	0A AC D9 A1 5B 56 92 25
13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C	13 4F 5B 3F CF 80 31 7C
45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80	45 7C 61 7C 81 C0 81 80
81 3C 95 00 A9 40 9E 20	81 3C 95 00 D1 C0 9E 20	81 3C 95 00 D1 C0 9E 20
00 90 51 20 1F 30 48 80	00 90 51 20 1F 30 48 80	00 90 51 20 1F 30 48 80
36 00 00 00 00 00 00 1C	36 00 00 00 00 00 00 1C	36 00 00 00 00 00 00 1C
00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F	00 00 00 FD 00 30 78 1F
66 11 00 0A 20 20 20 20	66 11 00 0A 20 20 20 20	66 11 00 0A 20 20 20 20
20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53	20 20 00 00 00 FC 00 53
35 33 30 31 57 42 0A 20	35 33 30 31 57 42 0A 20	35 33 30 31 57 42 0A 20
20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF	20 20 20 20 00 00 00 FF
00 4A 43 44 30 35 30 30	00 4A 43 44 30 35 30 30	00 4A 43 44 30 35 30 30
31 38 34 30 31 0A 00 FD	31 38 34 30 31 0A 01 C8	31 38 34 30 31 0A 01 C8
6	02 03 24 71 4B 06 02 15	02 03 24 71 4B 06 02 15
ACER	11 04 13 05 14 90 1F 20	11 04 13 05 14 90 1F 20
S5301WB	23 09 17 07 83 01 00 00	23 09 17 07 83 01 00 00
ADT	67 03 0C 00 10 00 38 2D	67 03 0C 00 20 00 38 2D
D0	E3 05 03 01 01 1D 80 D0	E3 05 03 01 01 1D 80 D0
ddc2	72 1C 16 20 10 2C 25 80	72 1C 16 20 10 2C 25 80
	C4 8E 21 00 00 9E 01 1D	C4 8E 21 00 00 9E 01 1D
	80 18 71 1C 16 20 58 2C	80 18 71 1C 16 20 58 2C
	25 00 C4 8E 21 00 00 9E	25 00 C4 8E 21 00 00 9E
	01 1D 00 BC 52 D0 1E 20	01 1D 00 BC 52 D0 1E 20
	B8 28 55 40 C4 8E 21 00	B8 28 55 40 C4 8E 21 00
	00 1E 8C 0A A0 14 51 F0	00 1E 8C 0A A0 14 51 F0
	16 00 26 7C 43 00 13 8E	16 00 26 7C 43 00 13 8E
	21 00 00 B8 00 00 00 00	21 00 00 B8 00 00 00 00
	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	00 00 00 00 00 00 00 B2	00 00 00 00 00 00 00 A2
	6	6
	ACER	ACER
	S5301WB	S5301WB
	ADT	ADT
	D0	D0
	ddc2	ddc2